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The Show Must Go On

Here we are once again preparing for Baselworld. March has a way of sneaking up on my calendar and I never seem to feel ready for the show. There is a lot of preparation required for everyone attending and while my prep might be small potatoes compared to say, a watchmaker, I do like to be organized before jetting off. There are appointments to be made, logistics to be worked out and comfortable shoes to be purchased. Everything always works out in time except I have yet to find those comfortable shoes. Watch world problems, I suppose.

Sore feet aside, I love the excitement and buzz of Baselworld and look forward to it every year. Since I have the pleasure of keeping some of the best company in the business, I asked our team for their favorite Basel memories.

Roger Ruegger, WatchTime's Editor-in-Chief. "Should be my 17th Baselworld. And so far I have lost three mobile phones because of it, the last one in 2016. On a more positive note: as you may know, Baselworld used to be one of my clients, which meant, for example, that we were able to access Hall 1 in 2010 a couple of weeks before the show opened. This 'backstage tour' plus all the info we got from the fair was in my opinion even more

impressive than the show itself because you immediately realized what it actually takes to make this one week of Baselworld happen."

Mark Bernardo, WatchTime.com's Digital Media Editor, 11th Baselworld. "As highlights go, it's hard to beat interviewing and talking watches with Arnold Schwarzenegger in 2015, when I was among the very few journalists to get a sneak preview of his (yet to be released) Schwarzenegger watch brand. Hopefully those watches actually get released one day."

Joe Thompson, WatchTime's Editor-at-Large and watch industry veteran, 37th Baselworld. "In the early 1980s, with the Swiss watch industry in severe crisis, there were no press dinners, as there are now. Each night a small crew of English-speaking journalists would get together at a Basel pub. One evening, the waitress bringing the rounds of beers seemed particularly unfriendly to me. Each time she gave me a beer, I would thank her in my newly acquired German and she would glare at me. A buddy from Canada later informed me that '*guten tag*' does not mean 'thank you.' It turns out that every time the lady gave me a beer, I smiled and said to her, 'Good afternoon!'"

Minda Larsen, WatchTime's Events Manager, 2nd Baselworld. "At the star-studded Movado party last year, a New York Times editor singled out and gushed over Joe Thompson. It was so neat to see two esteemed journalists recognizing each other's great work. Even more exciting, however, was seeing WatchTime Publisher Sara Orlando freak out over Movado Ambassador Kerry Washington at the same event!"

Sara Orlando, WatchTime's Publisher, 9th Baselworld. "I recall being so awestruck from my first sighting of Nicolas Hayek Sr. during my first Basel show. He was simply strolling along Swatch Group's massive booth taking it all in but the thing that struck me were his bodyguards! I had never seen bodyguards at a 'trade show.'"

This year's show comes during a challenging period in the watch industry with many uncertainties globally. One thing is certain, the show must go on and it will. Let hope spring eternal.

My very best,

Sara Orlando
Publisher



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Generations

A little bit more than 20 years ago, Patek Philippe launched a bold advertising campaign with the message, “You never actually own a Patek Philippe. You merely look after it for the next generation.” This campaign, probably one of the most iconic in the watch industry next to Omega’s “Choice” testimonial ads, was created by a London-based advertising agency called Leagas Delaney. Its founder, Tim Delaney, who has been described as one of the world’s best copywriters, has worked on brands including Harrods, Timberland, Hyundai and Adidas and at some time even acted as an advisor to British Prime Minister Jim Callaghan. Tim Delaney believes that “everything has a story to tell” and has made it his mission to write it.

I was fortunate to work for Leagas Delaney in London in 1995, which was not only my first professional interaction with the watch industry, but most importantly a unique opportunity to learn firsthand what it meant to be working for someone “unnaturally curious.”



Tim Delaney (left) in 2010

But the Patek Philippe campaign not only shows how important the right story can be, it also shows that great ideas need time and continuity. If Patek Philippe had not been this courageous or didn’t use the same message consistently for so long, the impact would probably have been very different.

The same goes for watches. There is a reason why models like the Speedmaster, Submariner, Reverso or Royal Oak are so successful: they not only have a great story to tell, they also have been around for quite some time (which, of course, is the main reason there are so many stories linked to them).

The 27th edition of SIHH, which also happened to be the first watch show in 2017, demonstrated that many of the larger brands are returning to their core values and their icons. Cartier, for example, reduced the number of novelties by half and focused on one of its all-time classics, the Panthère. Girard-Perregaux brought back the Laureato, IWC the DaVinci, and Audemars Piguet focused on the Royal Oak.

The next generation of watchmakers, the smaller and more independent brands, however, most of whom were located in the “Carré des Horlogers,” seem to continue being “unnaturally curious” in order to appeal to a different target group. But thanks to Patek Philippe and Leagas Delaney, every watch buyer probably instinctively thinks about the next generation when buying an instrument that tells so much more than just time.

A watch that is guaranteed to look very different to future generations is Tudor’s Black Bay with a case made of bronze. Mark Bernardo and Martina Richter both extensively tested the latest version of Tudor’s popular dive-watch model for this issue. We also had the chance to test the Seamaster Planet Ocean Chronograph from Omega, the brand’s first chronograph to earn certification as a Master Chronometer. And we compare pilots’ watches from IWC and Breitling as well as chronographs from Alpina, Bell & Ross and Union Glashütte.

Speaking of flying; in this issue, we also take you to Seiko’s main production facilities for Grand Seikos in Japan, where we found out what Shinji Hattori’s, president and chief executive of Seiko and the great grandson of Seiko’s founder, favorite watch is.

Roger Ruegger
Editor-in-Chief



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*ON THE COVER: The Tudor Heritage Black Bay Bronze.
Photo by OK-Photography*

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BORROWED TIME:

PARMIGIANI TONDA HÉMISPHERES

All dual-time watches claim to have easy-to-use second-time-zone functions. Parmigiani Fleurier goes the extra mile for user-friendliness with its Tonda Hémisphères model,

equipped with two independent movements for setting and synchronizing time zones with to-the-minute accuracy. We spent some quality time with this distinctive travel watch in Geneva during our annual pilgrimage to SIHH.



THE PANTHER PROWLs AGAIN: CARTIER'S ICONIC COLLECTION RETURNS

The 1980s is making a comeback – shoulder pads, big hair, and now, the Panthère de Cartier. Originally introduced in 1984, the collection was the ultimate representative of the signature Cartier motif, even though it was perhaps the least literal interpretation. Reintroduced at SIHH, the Panthère is a volume collection, with multiple references and price points. We offer a look at the most notable models.

BASELWORLD PREVIEW:

OMEGA'S NEW SPEEDMASTERS

Omega has offered a sneak preview of two of the new models it will launch later this month at Baselworld 2017: the Omega Speedmaster 38 mm "Cappuccino" — with taupe-brown subdials and diamond-pavé bezel — and Speedmaster Moonwatch Automatic (right), a vintage-look model equipped with Omega's Master Chronometer movement.



WRIST RACER: BAUME & MERCIER CLIFTON CLUB SHELBY COBRA

Baume & Mercier unveiled the Clifton Club — a sporty offshoot of its Clifton line of men's dress watches — at SIHH. The undisputed showpiece of the new collection is the Clifton Club Shelby Cobra CSX2299 Limited Edition — the latest timepiece born of the brand's partnership with the Carroll Shelby Company and the first to debut within the Clifton family.



EXPLORING PANERAI'S AMERICA'S CUP LIMITED EDITIONS

Panera, which has for more than a decade sponsored its own Classic Yachts Challenge racing series, will take an even bigger role in the world of yacht racing, becoming the official partner of the 35th America's Cup and also of two major racing teams: Oracle Team USA and Softbank Team Japan. Of course, the new partnerships are being commemorated with several new limited-edition America's Cup watches.



SIX WATCHES CELEBRATING THE YEAR OF THE ROOSTER

January 28 marked the beginning of the Year of the Rooster, the 10th animal in the Chinese Zodiac. As per recent tradition, a handful of luxury watch brands, always cognizant of their Asian markets, have created special timepieces to commemorate the occasion. Here are six worth crowing about, from Bovet, Chopard, Harry Winston, Jaquet Droz, Panerai and Piaget.



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SIZE MATTERS

As a wristwatch aficionado, I used to buy quality timepieces regularly. It has been nearly a decade since I stopped buying, and I know quite a few people who have dropped out of the quality wristwatch market. Those people, including myself, have done so because they simply refuse to wear a pocket-sized watch on their wrists. It is not just a matter of price, style, or all the silly complications. To use a worn out cliché, “size matters”; in this case, smaller is better. Most of the people I know who have dropped out of the contemporary wristwatch market now simply use their cell phone as a timekeeper. In my case, since I still have a good assortment of what are now vintage pieces, I still wear the excellent wristwatches of yesteryear. Most of those high-quality wristwatches have a 33-mm case diameter and the biggest one is 37 mm. So, when will the so-called “smart” decision makers of the big Swiss houses realize that there is a substantial untapped market for smaller wristwatches and consider producing those in addition to what they make now exclusively? Thank you for publishing a great watch magazine.

Henri Bonnet
via e-mail



Citizen Eco-Drive Perpetual
Chronograph AT4004-52E



Breguet Type
XXI 3817
Flyback
Chronograph

HOOKED (I)

I recently purchased my first “luxury” watch. It is a Citizen Eco-Drive Perpetual Chrono AT4004-52E. Once I saw the beauty of it on my wrist and felt the weight of it, I was hooked!

I then had to know all about watches. The different brands. How they work, etc. So I went to my local bookstore and found the December 2016 issue of WatchTime magazine.

Your “New Old School” editorial [Publisher’s Letter] was right on target. As a mature man, I have arrived at the place of letting technology serve me and not the other way around. When I’m at home, I like to read a physical book or magazine. Smartphones and tablets are great for looking up information and reading on the road.

In essence, I have the best of both worlds! By the way, I love my Citizen watch, but the Breguet Type XXI 3817 flyback chronograph on page 13 – that is the most beautiful watch I’ve ever seen. I want to see and feel that on my wrist someday. And not just look at it in print.

Here’s to having the best of both worlds.

A new subscriber,
Tyler Sims
via e-mail

DECEMBER 2016 ISSUE

I really liked your article on John Reardon in the December 2016 issue. You might want to mention online or in the newsletter to your readers that if they liked the article, then they might enjoy the past article on Daryn Schnipper [“Present at the Creation”] in WatchTime’s April 2008 issue. Ms. Schnipper started at Sotheby’s even earlier than Mr. Reardon, and according to your article, was the one who hired him. Those early days of wristwatch auctions are fascinating to me. I just wish I loved watches back then and saved some money to bid on something nice.

Scott Lalonde
via e-mail

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The Pioneers



"Three Take the Plunge" from WatchTime's December issue

WatchTime welcomes correspondence from readers. Send comments to editor-in-chief Roger Ruegger at 37 West 26th Street, Suite 412, New York, NY 10010 or via e-mail to rruegger@watchtime.com. Please include your full name, city and state, and country (if outside the United States). Letters may be edited for length or clarity.

DIVE-WATCH COMPARISON DECEMBER ISSUE

I have been a certified Scuba since 1965, back in the days of double-hose regulators and long before BC's, pressure gauges and dive computers. Over the decades, I've worn dive watches from Seiko, Rolex, TAG Heuer, Citizen and Omega. For over 15 years, my go-to dive watch has been an Omega Seamaster Pro, so I was very interested in your December comparison between Doxa, Seiko and TAG Heuer dive watches ["Three Take the Plunge"]. After reading the article, my conclusion is you selected the wrong Seiko dive watch for the comparison.

Instead of pitting the \$3,300 (list) SBDX014 against the Doxa and the TAG, you should have used a \$395 Seiko SNE107 dive watch. It's an ISO 6425-certified, solar-powered quartz watch and stunningly accurate. My Seiko Solar is running +1 second per WEEK! This works out to under 1 minute per year, and the internal battery that is charged by the solar cell may well outlast me. I am 69.

In a dive watch, I look for reliability, readability and minimal requirements for service. Minimal service is important because every time you crack the case for service, or even battery replacement for quartz watches, you need to replace the seals and pressure test it. With solar or kinetic watches, you greatly reduce the need for case-cracking. I chose a solar watch over a kinetic watch because a kinetic watch uses a rapidly spinning mini-generator to charge the battery while a solar cell has no moving parts and should be more reliable.

I still wear my Seamaster from time to time, but my Seiko Solar is now my daily wear watch and my preferred dive watch as well.

Michael T. Parker
via e-mail

HOOKED (II)

I got my very first issue of WatchTime seven years ago when I was in the hospital My wife bought a bunch of magazines for me to read, and I've been hooked ever since. I have a small collection of good watches, but darn, you guys Now I'm hooked on getting a Patek and it's ruined me! I do love reading about all kinds of watches.

Thanks for the terrific work you do!

Jeff Roberts
via e-mail



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Five Major Trends At SIHH 2017

Last January, the 27th edition of the Salon International de la Haute Horlogerie (SIHH) in Geneva welcomed not only a couple of new brands (Girard-Perregaux and Ulysse Nardin plus five newcomers that were added to the Carré des Horlogers), but also the public. For the first time ever, SIHH opened its doors to end consumers on its last day: a great opportunity for the 15,000 visitors to discover the novelties of some of the world's most important watch brands. And also a great way to get a better overview of where the industry might be heading in 2017.

1 WOMEN'S WATCHES

This year, pretty much every major brand introduced an impressive selection of watches targeted at women, in some instances even with new complications. Among those were Jaeger-LeCoultre and, of course, Cartier, but also Roger Dubuis and Vacheron Constantin. Even IWC, despite its claim to be generally “engineering watches for men,” dedicated the relaunch of its Da Vinci collection to women.

2 NEW MATERIALS

The search for innovative materials, mostly for watch cases, continues in 2017. Panerai and Richard Mille introduced watches with new materials (like Graphene and metallic glass); Roger Dubuis even decided to produce the movement for the Excalibur Spider Full Carbon with parts made of carbon.

3 ENTRY-LEVEL OFFERINGS

Visitors usually don't expect entry-level watches at a show dedicated to haute horlogerie, but surprisingly many watch brands started to talk about “becoming more accessible” and expanded their collections with relatively more affordable



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Abt Time Boutique Glenview, IL | **Little Treasury Jewelers** Gambrills, MD | **Schiffman's** Winston-Salem, NC | **Schooley's Jewelers** Ithaca, NY
Bassano Jewelry New York, NY | **Danson Jewelers** Hasbrouck Heights, NJ | **Robichau's Jewelry** The Woodlands, TX
Arax Jewellery Toronto, Canada | **Joe's Jewelry** Philipsburg, St. Maarten | **Island Jewellers** Grand Cayman, Cayman Islands

products. This even included brands like Parmigiani with watches available for less than \$10,000 and Ulysse Nardin with a tourbillon for less than \$30,000. In absolute numbers, Baume & Mercier's new Clifton Club for \$1,950 was most likely the most affordable SIHH novelty in Geneva.

4 LINKS TO THE AUTOMOTIVE INDUSTRY

Next to the world of sailing, cars continue to dominate – not only for marketing reasons, but fortunately also for research and development. Some examples: Baume &

Mercier launched a new Shelby Cobra edition, Roger Dubuis added Pirelli as a partner, Richard Mille continues to work with McLaren (which led to the development of the lightest chronograph, the RM 50-03), Parmigiani with Bugatti, and Montblanc's new TimeWalker collection also started its engine in the world of auto racing.

5 COMPLICATIONS AND NEW RECORDS

We already mentioned Richard Mille's RM 50-03 Graphene-based 40-gram chronograph (the movement alone weighs just 7 grams), which also turned out to be

one of the most expensive releases this year. But quite a few other brands were also able to surprise the audience with yet another ultra-complicated addition to their top-level offerings: for example, A. Lange & Söhne's Tourbograph Pour Le Mérite added for the first time a perpetual calendar to the range, and Vacheron Constantin's Celestia Astronomical Grand Complication 3600 combines astronomy and watchmaking with 23 astronomical complications. And its calendar doesn't need any intervention other than a date change every 400th edition of future SIHHs.

Luminox: Changing Hands

The two Swiss watch manufacturers, Andre and Ronnie Bernheim (Mondaine Watch Ltd.), have purchased the remaining 50 percent of Luminox watch companies and brand from the brand's founder, Barry Cohen. Luminox,

introduced in 1989, is best known for its rugged wristwatches, which have a self-powered illumination system.

The two brothers first bought a 50-percent share of the business from Cohen's former partner in 2006 and now

own the Luminox companies and brand in their entirety. They will now focus on a new brand positioning and campaign, and aim to grow Luminox worldwide with new products that will be presented in March. "We have great concepts and products under development, which we strongly believe will take the brand to a much higher level, even with the difficult nature of the industry at the moment," said Andre Bernheim.

Mondaine and Luminox will not show at Baselworld in 2017 but will hold its own exhibition adjacent to the main hall.

Andre (left) and Ronnie Bernheim (center) have purchased Luminox from Barry Cohen (right).





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Pierce Brosnan, Photographed by Marco Grob

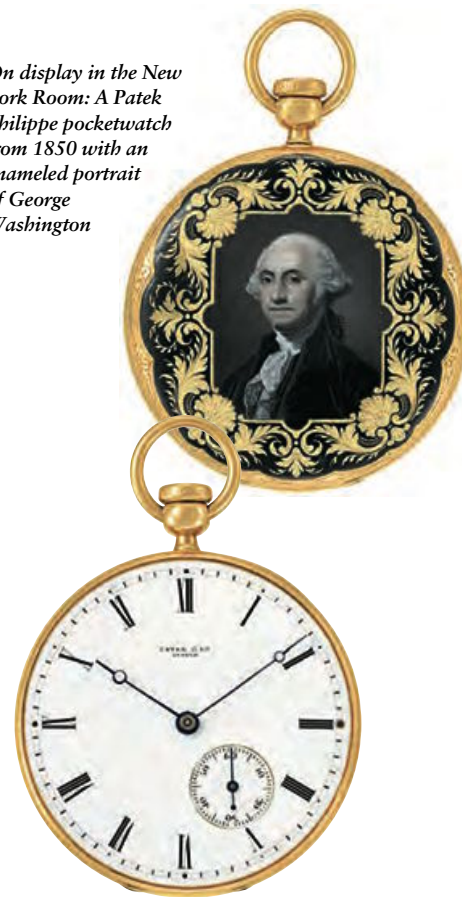


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On display in the New York Room: A Patek Philippe pocketwatch from 1850 with an enameled portrait of George Washington



Patek Philippe's Grand Exhibition

In July, a 10-day public exhibition in New York will focus on Patek Philippe's tradition of watch manufacturing as well as the company's 178-year history.

For the first time ever a two-story structure has been created within the former Bowery Savings Bank building across from Grand Central Terminal to accommodate the square footage required for the 10 specific rooms that will showcase different topics. Visitors will have access to exceptional pocket- and wristwatches dating back to 1530, watchmaking demonstrations, and interactive experiences in a space of 13,218 square feet.

The aim of the Grand Exhibition is to recreate elements of a visit to the company's *manufacture* in Geneva, the company's museum, and the historical Salons on the Rue du Rhone. Patek Philippe President Thierry Stern: "From its earliest days, when our founder Antoine Norbert de Patek made his first journey to America in the 1850s until today, the importance of America to Patek Philippe can be seen through our history exhibited in the Grand Exhibition in New York. Moreover, it is a tradition in my family that the owners of Patek Philippe train in the new world; following the path of my grandfather Henri

who founded in 1946 the Henri Stern Watch Agency in the Rockefeller Center and my father Philippe, I trained in the U.S. when I started in the company."

The exhibition "The Art of Watches, Grand Exhibition" will take place July 13 - 23, 2017, at Cipriani 42nd Street in New York.

Switzerland's Watch Slump Worsens

Exports last year suffered the steepest drop since 2009.

Swiss watch exports fell for the second consecutive year in 2016, down 9.9 percent to 19.4 billion Swiss francs. (The figure is essentially the same in dollars.) That's the worst performance since the horrendous 22.3-percent fall in the recession year of 2009.

Over the past two years Switzerland's global exports have decreased 12.8 percent, as the industry struggles to deal with a host of problems. Chief among them is the ongoing collapse of Switzer-

land's top market, Hong Kong. Swiss watch exports there have declined for 23 consecutive months, and were down another 15.7 percent in December. For the full year, the #1 market turned in the worst performance of all markets, -25.1 percent. "The value of this market has fallen by half in four years," noted the Federation of the Swiss Watch Industry (FH), no doubt with a wince. (The FH publishes the data, which is compiled by Switzerland's Federal Customs Adminis-



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tration.) Hong Kong has been wracked by political and social turmoil and abandoned by mainland Chinese buyers, who once flocked to Hong Kong but no longer feel welcome there.

But demand for luxury watches was soft just about everywhere last year. Watch exports fell in 21 of Switzerland's top 25 markets. Ten of them were down by double-digits, including five of the top 10 markets. (See table.) Switzerland's second-best market, the U.S., just missed the double-digit mark at -9.1 percent.

What's wrong? Swiss watch executives and observers cite a litany of ills. The FH blamed the overvalued Swiss franc, the continuing crackdown on corrupt gift-giving in China, and a decline of tourists to Europe due to terrorism fears. Equally troubling is a shift in consumer sentiment away from luxury goods. "Demand for personal luxury goods fell, especially for the most expensive products," the FH said. "Timepieces had to contend with the changes in choices made by consumers who are increasingly interested in experiences of the world of luxury and less in shopping."

Another major problem last year was a slowdown in the Chinese economy. Related to that was intense competition from gray market dealers offering premium watches at heavy discounts. Gray market goods reached record levels as watch producers and retailers sought to reduce swollen inventories.

Swiss watch executives say they think that the downturn has hit bottom. But forecasting 2017 is a fool's errand, they say, and the most optimistic outlook calls for flat sales this year. Says the FH, "The complex and uncertain environment makes forecasting very difficult. Information available at present suggests that watch export figures should stabilize in 2017." The problem is that virtually all of 2016's ills continue to plague the industry this year. There is evidence that watch sales in mainland China are picking up. But watch inventories are still high and luxury goods sales forecasts generally are low. The Boston Consulting Group predicts that the personal luxury market will grow 2 to 4 percent a year through 2022, versus the 5 percent per year pace it had from 2008 to 2014.

Credit Suisse in its annual forecast for 2017 Swiss industries issued in January predicted that only four would suffer declines. The watch industry was one of them. "The watch sector is in crisis," Credit Suisse says. It predicts a downturn between 2 and 5 percent.

— JOE THOMPSON

A DEEPER DOWNTURN

Swiss watch exports in value, 2016
(in millions of Swiss francs)

COUNTRY	VALUE	% +/-
1. Hong Kong	2,383	-25.1
2. U.S.	2,145	-9.1
3. China	1,293	-3.3
4. Japan	1,262	-3.3
5. UK	1,206	+3.7
6. Italy	1,181	-10.3
7. Germany	1,100	-10.8
8. Singapore	1,013	-10.4
9. France	986	-19.6
10. UAE	924	-2.8
11. South Korea	662	+3.7
12. Spain	446	-9.9
13. Saudi Arabia	347	-20.3
14. Taiwan	346	-19.6
15. Austria	306	-0.9

Source: FH

The Fifth Element

Bulgari is adding a fifth member to its distinctive octagonal family of watches: the Octo Roma. Compared to the regular Octo automatic model launched in 2012, the Velocissimo (chronograph) and the Finissimo watches (ultra-thin and complications), the new automatic model represents a more rounded design approach to the octagonal shape.

The Octo Roma automatic models will be available in five versions with three dial variations – white, black or brown – either in steel, two-tone gold and steel, or gold. In addition to different leather straps, a new steel bracelet will also be available.

The Octo Roma is powered by Bulgari's self-winding Calibre BVL 191 Solotempo, which offers a 42-hour power reserve. The case is water resistant to 100 meters, measures 41 mm in diameter, and is fitted with a transparent caseback. Prices start at \$5,950.

Bulgari's new Octo comes with a subtly reworked octagonal case.





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16,000

Number of attendees at January's SIHH salon in Geneva, an increase of 10 percent from the previous year

15.5

Percentage in 2000 of the total value of Swiss watch exports accounted for by watches with an export price of SF3,000 or more, according to FH data

2,500

Number of public visitors to SIHH, who were allowed into the show for the first time this year

62.2

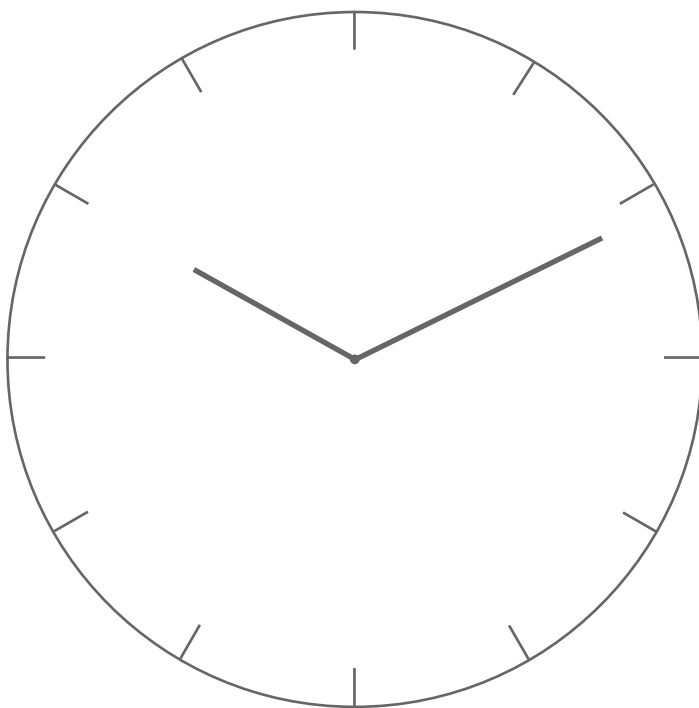
Percentage in 2016 of the total value of Swiss watch exports accounted for by watches with an export price of SF3,000 or more, according to FH data

3,550

Approximate number of watches produced by Richard Mille annually, according to the company

180,000

Average price of a Richard Mille watch in Swiss francs in 2016, according to the company



49

Percentage of the total value of Swiss watch exports shipped to Asia in 2016

8,130,679

Total number of mechanical watches Switzerland exported in 2014

624,775

Number of watches produced by Shinola through 2016 since its founding in 2011

11.4

Percentage decline in value of Swiss watch exports shipped to Asia in 2016

6,961,830

Total number of mechanical watches Switzerland exported in 2016

654

Number of people employed by Shinola at the end of 2016



ProMare Chronograph

Anyone who thinks of a newsreader when they hear the word anchor, milking cows when confronted with rudders and colourful friendship bracelets when asked about knots should probably stop reading right now. Everyone else should definitely dare to take a closer look at and be impressed by our new ProMare watch. This robust sports watch suits a wide range of outdoor and water activities down to a T, from sailing through to kite buggying and right through to waterskiing. This active nautical focus also formed the inspiration for the name of the new Mühle watch, which was created from „pro“ and „mare“, a combination of Latin terms meaning „for the sea“.

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Material Matters

Test your knowledge of metals, minerals and more.



What advantage does an acrylic crystal have over a sapphire one?

- Carbon fiber is sometimes used to make
 - Movement plates
 - Watch cases
 - Dials
 - B and C
- Which watch brand does not use silicon for any of its movement components?
 - Breguet
 - Patek Philippe
 - Ulysse Nardin
 - A. Lange & Söhne
- Silicon has never been used to make which movement component?
 - Balance spring
 - Mainspring
 - Escape wheel
 - Escapement lever
- Which company makes a watch with a sapphire case?
 - Hublot
 - Richard Mille
 - Greubel Forsey
 - All of the above
- What brand uses forged carbon for some of its cases?
 - Audemars Piguet
 - Tudor
 - Movado
 - IWC Schaffhausen
- Which of the following is true of Super-LumiNova?
 - It glows brightly in the dark for more than 24 hours.
 - It must be exposed to light periodically to be recharged.
 - It is manufactured by the Swatch Group.
 - It is mildly radioactive.
- What is the alloy Nivarox used for?
 - Balance springs
 - Balance springs and mainsprings
 - Balance wheels
 - Escape wheels
- What brand uses so-called “Tegimented” steel for its watch cases?
 - Bell & Ross
 - Hanhart
 - Sinn
 - Rolex
- One advantage of acrylic crystals over sapphire ones is that they
 - Are less likely to get scratched
 - Are less likely to shatter
 - Can be treated with a glare-proof coating
 - Can be machined to be perfectly flat
- The original version of what watch had a crystal made of hesalite?
 - Patek Philippe Nautilus
 - Omega Speedmaster
 - Rolex Yacht-Master II
 - Jaeger-LeCoultre Reverso
- Titanium is sometimes used as an alternative to steel in watch cases because it is
 - Easier to polish to a high shine
 - Easier to coat using the PVD process
 - Lighter in weight
 - More scratch resistant
- Most watch jewels are made of
 - Synthetic diamond
 - Synthetic corundum
 - Spinel
 - Heat-treated beryl
- Which of the following is true of the alloy called “German silver”?
 - It contains no silver.
 - It is 75 percent silver.
 - It is no longer used in watchmaking.
 - It has a strong pink cast.
- Breitling recently introduced a new material called Breitlight. What is it?
 - A luminous paint
 - A proprietary polymer
 - A lightweight alloy
 - None of the above
- What grade of steel is used in most watch cases?
 - 124L
 - 294L
 - 316L
 - 904L

Answers: 1D; 2D; 3B; 4D; 5A; 6B; 7A; 8C; 9B; 10B; 11C; 12B; 13A; 14B; 15C



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BACK IN BLACK

Black watches have been in vogue for a long time and Breitling is concentrating on them almost exclusively. The swarthy hue goes well with this brand of technical pilots' watches and with the trendy military look.

BY JENS KOCH

Breitling has a special status among manufacturers of pilots' watches because the brand successfully links two almost diametrically opposite poles. On the one hand, the Swiss label builds watches for professional pilots. These include the Emergency, which has a built-in emergency transmitter, and multifunctional watches designed for aviators, like the Exospace B55, which records takeoff and landing times that can later be transferred into the flight log. On the other hand, Breitling numbers among the few watch brands with design that responds quickly and tangibly to trends and fashions. This is one reason Breitling highlighted the color black in 2016. Here are some of the models to choose from.

❶ AVENGER II SEAWOLF BLACKSTEEL

The 45-mm-diameter satin-finished case coated with DLC (diamond-like carbon), can withstand water pressure to a depth of 3,000 meters. Other details typical of

pilots' watches are the screwable crown and the unidirectionally rotatable bezel. Automatic Caliber ETA 2824 is responsible for the time display. This model sells for \$4,625.

❷ CHRONOLINER BLACKSTEEL

The new Chronoliner Blacksteel is a genuine tool watch with a black dial, a steel case coated with black DLC, and a black rubber strap. Its dial can display the elapsed time and the times in two time zones. The wearer can also keep track of the time in a third zone by pre-setting the rotatable scratch-resistant ceramic bezel. ETA's automatic Caliber 7754 ticks inside the 46-mm case. This model sells for \$8,600.



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3 AVENGER HURRICANE

This 50-mm model ups the ante with a series of technical strong points, e.g., new *manufacture* chronograph Caliber B12, which is an officially certified chronometer with a 70-hour power reserve and a 24-hour display specially designed for pilots. The case's innovative new material is another convincing feature: "Breit-light" is 3.3 times lighter than titanium; it's also harder and feels warmer to the touch than titanium, and it has an unusual marbled grain. This chronograph costs \$8,390.

4 SUPEROCEAN 44 SPECIAL

Pilots' watches with bold black-and-white contrasts inspired the design of Breitling's Superocean 44 Special divers' watch. The DLC-coated 44-mm stainless-steel case stays watertight to a depth of 1,000 meters and has a doubly insulated screwed crown. A helium-release valve equips this watch to accompany its wearer on saturation dives. Breitling uses a divers' bezel of scratch-resistant ceramic here for the first time. ETA self-winding Caliber 2824 ticks inside this watch, which is worn with a black rubber strap. This Superocean costs \$4,980.



5 NAVITIMER 46 BLACKSTEEL

The newest version of Breitling's great classic offers several special features. Thanks to a coating of DLC, the Navitimer 46 Blacksteel isn't only as black as night, it also boasts an especially tidy appearance. Only two subdials on the dial and a new rubber strap with a texture inspired by the tread of aircraft tires complete the picture. A transparent sapphire crystal in the back of the case reveals the all-black rotor in well-known *manufacture* Caliber B01. The Navitimer 46 Blacksteel costs \$9,225.



6 SUPEROCEAN HÉRITAGE CHRONOWORKS

Each of the 100 watches in the limited series of Superocean Héritage Chronoworks has a matte black 46-mm ceramic case. But the real star in this model is its movement. The bright minds in Breitling's new Chronoworks division found innovative solutions to improve the performance of the chronograph caliber. For example: the plate and the bridges are made of ceramic, while the wheels, the escape wheel and the pallets are crafted from silicon. By reducing the movement's energy consumption, the engineers were able to lengthen the power reserve from 70 to 100 hours. Of course, this much innovation doesn't come without a price: this watch sells for the sizeable sum of \$39,295. ○





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BRAND NEW

LONGINES

Longines has added the **Avigation Watch Type A-7 1935**, a contemporary replica of a watch Longines provided to U.S. Army pilots starting in 1935, to its Heritage collection.

Like the original model, the new watch has its dial angled 40 degrees to the right, which enabled a pilot, who would wear the watch on the inside of his wrist, to read the time without having to release his aircraft's control yoke.

- White-lacquered dial with large honey-colored Arabic numerals
- 41-mm stainless-steel case with large vintage-style fluted crown
- Automatic Caliber L788.2 based on the ETA A08.L11
- Small seconds and date in a subdial at 6 o'clock
- The central chronograph counter hand ticks off the seconds, while the subdial at 12 o'clock tallies elapsed times up to 30 minutes.
- 54-hour power reserve
- Brown alligator strap with a steel buckle
- \$2,050



TUDOR

Tudor's new left-handed version of its Pelagos model, the **Tudor Pelagos LHD**, has its roots in the left-handed models the brand made for the French Navy during the latter half of the 20th century.

"LHD" stands for "Left Hand Drive," a reference to the reversed position of the winding mechanism.

- Beige luminescent markers on the dial glow bright blue in the dark.
- Date disk at 3 o'clock features another callback to vintage Tudor dive watches: red text for even numerals, black for odd ones, a style nicknamed "roulette."
- 42-mm titanium case with unique production number engraved on solid-steel caseback
- Automatic helium-release valve
- Unidirectional divers' bezel with a matte black ceramic disk
- Tudor in-house movement, self-winding Caliber MT5612-LHD, COSC-certified
- Water resistant to 500 meters
- 70-hour power reserve
- \$4,400 with a titanium bracelet and additional black rubber strap

BAUME & MERCIER

The **Clifton GMT Power Reserve** expands Baume & Mercier's Clifton collection with a complication that's both useful and cosmopolitan: a dual time indicator.

Central, rhodium-plated triangle-shaped hands display the current time on rhodium-plated Arabic numerals and indexes.

- Arc-shaped GMT indicator located at 12 o'clock
- Sun-satin-finished deep blue dial
- Semicircular power-reserve display at 6 o'clock
- Date window at 3 o'clock
- 42-hour power reserve
- 43-mm stainless-steel case
- Automatic Soprod 9035 movement
- 50-meter water-resistant case with sapphire caseback
- Black alligator strap with triple-folding clasp
- \$3,690.





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Audemars Piguet
Royal Oak
Extra-thin



NEW STAR

Bulgari
Octo Finissimo
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www.watchstars.com

HUBLOT

Hublot has unveiled three all-new, redesigned versions of the **Hublot Big Bang Ferrari Unico** in three case materials: King Gold, Hublot's proprietary precious-metal alloy; titanium; and a unidirectionally grained carbon fiber. The second-generation models feature design changes that give them a more streamlined look than the originals.

- The bezel's contours have countersunk notches for the six H-head screws that anchor it to the case to give it a more ergonomic, auto-inspired form.
- The case material has a red line detail that resembles the groove at the rear of the LaFerrari model.
- The elongated chronograph pushers are fixed to a rotating staff like a car's pedals.
- The name "Ferrari" is emblazoned in bright red across the watch's three-part case construction.



- Ferrari's iconic rearing horse logo has been moved from the 9 o'clock subdial, which is now in the shape of an air extractor, to 6 o'clock.
- The minutes-counter subdial at 3 o'clock has been redesigned to resemble a car's tachymeter.
- The date window looks like a Ferrari's speed dial.
- In-house automatic Unico movement,

with column-wheel chronograph with flyback function

- 45-mm case
- 72-hour power reserve
- Black Alcantara on black rubber straps with red over stitching like that used on a Ferrari's interior upholstery
- In King Gold: \$42,000; in titanium: \$26,200; in black unidirectional carbon: \$28,300

*Altiplano Self-Winding
43 mm*



PIAGET

This year, Piaget is marking the 60th anniversary of the Piaget Altiplano, the groundbreaking ultra-thin wristwatch that debuted in 1957 and contained what was then the world's thinnest mechanical movement, Caliber 9P. Piaget marks this milestone with new limited-edition Altiplano timepieces: the **Piaget Altiplano Self-Winding 43 mm** and the **Piaget Altiplano Manual-Winding 38 mm**.

- Both of the new models have deep blue sunburst-finish dials with a historical Piaget logo.
- Both feature the light-blue crosshairs motif found on vintage Piaget watches, as well as the white-gold hour markers and thin baton hands that are typical of the Altiplano collection.
- Both have white-gold cases, with dark blue alligator leather straps and white-gold ardillon buckles.

The larger of the two watches, the **Piaget Altiplano Self-Winding 43 mm**, has the word "Automatic" beneath the Piaget

logo at 12 o'clock, which appeared on the brand's first ultra-thin watch.

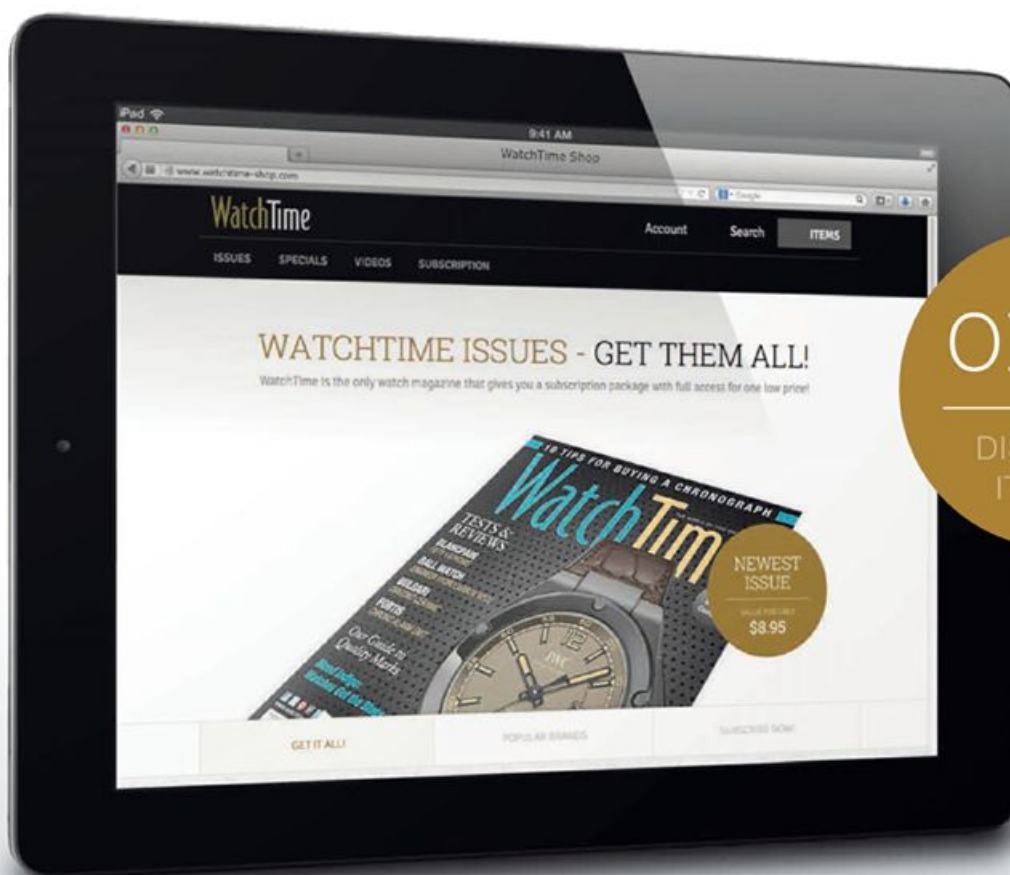
- Ultra-thin 43-mm diameter case
- The movement is Piaget's self-winding Caliber 1200P, which measures 29.9 mm in diameter and a mere 2.35 mm thick.
- Sapphire window in caseback
- 44-hour power reserve
- Limited to 360 pieces
- \$23,900

The **Piaget Altiplano Manual-Winding 38 mm** has a smaller case.

- Equipped with the manual-wind Caliber 430P, just 2.1 mm thick.
- The movement is slightly smaller in diameter, at 20.5 mm.
- Decorative, engraved caseback bearing Piaget's logo and coat-of-arms, along with the watch's limited-edition number
- 43-hour power reserve
- Limited to 460 pieces
- \$17,900

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*Da Vinci
Perpetual
Calendar
Chronograph*



*Da Vinci
Tourbillon
Rétrograde
Chronograph*

IWC

IWC Schaffhausen is introducing an entirely redesigned Da Vinci collection. The new timepieces eschew the 1960s-inspired tonneau case from the most recent update of the series in 2007 and embrace instead the classic round cases of the 1980s Da Vinci.

The first men's model to be released is the new **Da Vinci Perpetual Calendar Chronograph**, which is also the first IWC watch to combine a chronograph's hour and minutes counters and a moon-phase display in a single subdial.

- All-new IWC Caliber 89630 incorporates a silver-plated or gold-plated moon disk with a rounded, dark blue section, representing the Earth's shadow that rotates to show the moon's waxing and waning.
- The moon-phase is ultra-precise, deviating from the moon's actual cycle by just one day every 577.5 years.
- The perpetual calendar displays for the date, month, and day are on three subdials at 3, 6, and 9 o'clock, respectively.

- A small window at 8 o'clock indicates the four-digit year.
- The chronograph is equipped with a flyback function operated via two cylindrical push-buttons in the side of the case and records stopped times on the single dark blue subdial at 12 o'clock, which also hosts the moon-phase.
- Blued central chronograph hand
- 43-mm diameter rose-gold or stainless-steel case
- Sapphire window in the caseback
- 68-hour power reserve
- In rose gold: \$40,200; in stainless steel: \$29,900

A second masculine model is the **Da Vinci Tourbillon Rétrograde Chronograph**, which combines a classical flying tourbillon, a chronograph, and a retrograde date indication.

Visible in a large aperture at 6 o'clock on the silver-plated dial, the tourbillon has a technically complex hacking seconds function: when the crown is pulled out,

two levers clamp onto the balance rim, halting the balance, wheel train, and hands, and thus ensuring accurate time setting to the second.


- 44-mm rose-gold case
- All-new in-house movement, Caliber 89900
- The chronograph, which includes a flyback function and is operated by two golden pushers on either side of the crown, can record elapsed-time intervals up to 11 hours and 59 minutes.
- The arc-shaped retrograde date display, located on the left side of the dial, has a small date-pointer hand that moves in one-day increments and snaps back to 1 after reaching 31. In months with fewer than 31 days, use the crown to advance the date pointer back to the first day of the new month.
- 68-hour power reserve
- Sapphire window in caseback
- Brown alligator leather strap by Santoni with folding rose-gold clasp
- \$100,200

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MONTBLANC

Montblanc has introduced the first bronze-cased models to its 1858 collection, named for the year in which the legendary watchmaking *maison* Minerva was founded in Villeret, Switzerland. Renamed Montblanc Manufacture after Montblanc acquired it in 2007, Minerva makes movements for the 1858 watches in the vintage-inspired collection, which are designed to resemble Minerva chronograph watches of the 1930s. The new watches are the **1858 Automatic**, **1858 Automatic Dual Time**, and **1858 Chronograph Tachymeter Limited Edition**.

- All have 44-mm cases that incorporate a bronze alloy engineered to develop a unique patina over years of wear, making each watch personal to its owner.
- The 1858 Automatic and Automatic Dual Time watches have bezels made of this alloy, while the 1858 Chronograph uses it for the entire case, except for the caseback, which is made of bronze-colored titanium to avoid skin allergies.
- All have cathedral-style hour and minutes hands treated with beige Super-LumiNova

1858 Chronograph Tachymeter Limited Edition.



- All have luminous Arabic numerals, railroad minute tracks around the dials, and vintage-inspired onion crowns.
- The original 1930s-era Montblanc logo appears on the dials.
- Cognac-colored calfskin and alligator straps, with beige stitching, made at the Montblanc Pelleteria in Florence, add to the watches' aged look.

The Montblanc 1858 **Automatic** has a deep black dial with a simple hour-and-minutes display.

- Satinated stainless-steel case with bronze bezel and crown
- Solid-steel caseback features an engraving of the Minerva Manufacture in Villeret with the Jura Mountains in the background
- Automatic Caliber MB 24.16
- 38-hour power reserve
- Available July 2017
- \$3,475

The Montblanc 1858 **Automatic Dual Time** also has a case made of satinated stainless steel and topped with a bronze bezel.

- Montblanc automatic Caliber MB 29.19 equipped with a home time (GMT) function, date indicator, and day-night display.
 - Black dial with center-mounted, skeletonized home-time hand lets the user set the local time to a new time zone without affecting the home-time hour hand or the running of the minutes and seconds hands.
 - Day-night indicator, connected to the home-time hand, is in an aperture below 12 o'clock
 - Small seconds and date, both linked to the local time, are in a subdial at 6 o'clock.
 - Available July 2017
 - \$5,000
- The Montblanc 1858 **Chronograph Tachymeter Limited Edition** has an entire case made of satinated bronze.
- Minerva Caliber MB M16.29, a manual-winding monopusher chronograph movement with a column-wheel mechanism
 - 50-hour power reserve
 - For the first time, Montblanc has



1858 Automatic Dual Time



1858 Automatic

introduced rose-gold-colored components in the movement, which echo the case's bronze coloring.

- Champagne-colored sunray dial has a tachymeter scale
- Red-tipped central chronograph hand
- 30-minute chronograph subdial at 3 o'clock
- Small seconds subdial at 9 o'clock.
- Limited to 100 pieces
- Available April 2017
- \$27,500

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Modern Heritage

Tudor added a new bronze model to its Heritage Black Bay collection in 2016. Like its predecessors, this dive watch dips into its history with a material that appeals to contemporary tastes.

BY MARTINA RICHTER
PHOTOS BY OK-PHOTOGRAPHY



Tudor Heritage Black Bay Bronze

T

he 43-mm bronze case of the Tudor Heritage Black Bay makes aesthetic reference to a material that was once used for ships and diving equipment. But the aluminum and copper alloy used for its case is not exactly like the historical material, since bronze is generally a tin-bronze alloy. The aluminum bronze used here is a product of modern metallurgy: Tudor calls it a “high-performance alloy.” And

it still develops a patina over time that gives it an individual look – a primary reason for creating a bronze-cased watch in the first place.

High performance is exactly what this Tudor’s case offers. Brushed finishes overall make it virtually nonreflective, and water resistance to 200 meters makes it suitable for diving. The caseback is threaded and is made of bronze-tone PVD-coated stainless steel. On the front, a unidirectional dive bezel of anodized aluminum with golden numerals and line markers completes the ensemble. Deep grooves make the bezel easy to grasp. It can be depressed slightly, but even without the spring-loaded suspension, it’s easy to turn, and it exhibits perfect tactile

THE TUDOR HERITAGE LINE

The Tudor Heritage line was first established in 2010 with the Heritage Chrono line, followed by the Ranger, Advisor and Black Bay. The line is not a simple reinvention of a classic, but transfers characteristic features onto its modern timepieces.

The Heritage Black Bay Bronze comes with both a leather strap and a textile strap.





The sturdy Tudor Caliber MT5601 remains hidden behind a solid threaded caseback.

The abbreviation "MT" in the caliber name "MT5601" indicates its high manufacture quality.



THE TUDOR HERITAGE BLACK BAY BRONZE

The bronze version is a new edition within the Heritage Black Bay line. It elevates itself as a dive watch thanks to its unusual case material and COSC-certified in-house movement.

and acoustic clicks set in one-minute increments.

While the bezel is a new development at Tudor, other design elements take their cues from the brand's history, like the continuous drilled holes on the lugs and their distinctive sloping edges, and the famous Reference 7924 "Big Crown" from 1958 with its rose engraving from the early Tudor emblem. The large crown is easily released from its securely locked position, and the manual winding, hand setting and re-connection lock in a sturdy tube.

THE TUDOR'S DIAL, whose color coordinates well with the bronze tones of the watch, as well as the dramatically domed front crystal, were modeled after the first Tudor dive watches. Both strongly reinforce the retro feeling of this watch. The time is always very easy to read behind the anti-glare sapphire crystal. During daylight, the numerals, line markers and

(Continued on page 58)

CLOSE-UP

Tudor Heritage Black Bay Bronze

A Week With the Tudor Heritage Black Bay Bronze

By Mark Bernardo

Bronze cases have become one of those niche but quietly growing trends in the watch world, especially in the sporty arena of divers' watches. The material is, of course, eminently suitable for timepieces that are engineered to spend much of their lives submerged underwater; bronze alloys historically have been used in shipbuilding and the manufacture of diving equipment and thus have proven their maritime mettle.

Outside of its seafaring history, though, bronze has another appeal to the watch aficionado community, many of whose members are constantly on the lookout for a timepiece that stands out as uniquely their own. This metal's ability to develop a distinctive, aged-vintage-look patina over the course of its wearing life gives each bronze-cased watch a unique relationship to its owner. All metals age, of course, but bronze — like the proprietary aluminum-bronze alloy used in the case of the Tudor Black Bay that I review here — is essentially made to change color. A week or so with the watch didn't exactly give me the chance to impart much patina on it, but I

eagerly accepted the chance to spend some time with it nonetheless.

The immediate appeal of the Tudor Black Bay Bronze — as with pretty much all Black Bays, and most other popular models in the modern Tudor collection — is its ability to so deftly straddle the line between retro and contemporary. The case dimensions — a relatively large 43 mm in diameter, a few millimeters larger than predecessor models in steel — place it firmly in the 21st century, while the use of brown shades on both the dial and the rotating divers' bezel adds to its modern aesthetic, speaking to today's bolder and less conservative color schemes across the board in the watch industry.

But then there are the watch's more prominent aesthetic elements, all of which

hearken back to Tudor watch models from the 1950s through the 1970s.

The dial and bezel are two notably different shades of brown. The dial — punctuated by big dot hour indexes, an inverted triangle at 12 o'clock, and applied Arabic numerals at 3, 6, and 9 o'clock (this is the first Black Bay to incorporate Arabic numerals in its dial design) — calls to mind a bar of bittersweet chocolate, while the bezel, with its bronze-colored diving scale numerals and indexes, is more of a dark caramel color. The subtle contrast, in my opinion, works quite well, and resonates nicely with the color of the brushed case and distressed leather strap.

Both Tudor logos are present on this watch: the modern "shield" emblem appears on the dial below the 12 o'clock





mark, while the historical “rose” makes its presence felt as an engraving on the grooved, easy-to-grip winding crown, which locks in this watch’s water resistance of 200 meters when firmly screwed down. The bezel makes a pleasant, understated ratcheting sound as it rotates.

The strap, of course, is perhaps the most obviously and intentionally retro of the whole ensemble — thick, rustic, brown leather with light stitching and a soft underside that feels comfortable on the wrist. The neat, square holes perfectly fit the tongue of the buckle, also made of bronze, which has a brushed finish and a Tudor engraving. Admittedly the thick, stitched-leather look is more suited to a vintage pilots’ watch than a vintage diver, but the style is a personal preference of

mine; and in any case, the watch is also available with a NATO-style canvas strap for those seeking more vintage authenticity.

The solid caseback is actually not made of bronze but of steel with a bronze-colored PVD coating, for the most utilitarian of reasons: bronze is not as comfortable on bare skin as steel. The only aesthetic consequence here is that the caseback will retain some semblance of its “new” golden look and not develop a patina over time, as will the rest of the case; even after my brief period with the watch, the color contrast was stark.

The new movement is not a Rolex hand-me-down (nor a refurbished ETA, as were some of the movements in earlier Black Bay models) but a product of Tudor’s own watchmaking facility in the Swiss town of Bienne. Of course, like probably

many others, I’d love to be able to view this movement through a clear caseback, though I’m sure adding one would adversely affect both the watch’s water resistance and its price point — not to mention that vintage-look authenticity that seems to be one of its most persuasive selling points.

Priced at a very reasonable \$3,975, the Tudor Black Bay Bronze offers a dual benefit — instant vintage-watch cred among your fellow horophiles, while also marking you as someone who knows value for money when he sees it. In fact, with each built-to-age case developing a patina all its own, you could make a convincing argument that a Tudor Black Bay Bronze is one of the most affordable “unique pieces” out there.

Tudor Heritage Black Bay Bronze

The engraved rose on the screw-down crown is from the early Tudor emblem and the “snowflake” hands can be traced back to the 1970s.



(Continued from page 55)

striking “snowflake” hands appear beige, while at night, everything glows a deep, saturated green. The snowflake hands originated on watches that were supplied to the French Navy in the 1970s: it can be said that functionality is this watch’s military duty. The hands are easy to distinguish and, therefore, perfect for diving. The long, slim minutes hand coordinates well with the divers’ bezel, and the glowing diamond shape on the end of the seconds hand serves as a function check when visibility is not optimal. As it makes its way around the dial, tracing its way along the hour markers, the precisely

engineered design – like the diamond in the hour hand or the length of the minutes hand – reveals its importance. It is masterful geometry in the service of time measurement.

The Heritage Black Bay Bronze is the beneficiary of Tudor’s in-house Caliber MT5601. This movement has a larger diameter and is a variation especially developed for this Heritage model.

The movement measures 33.8 mm in diameter (in contrast to the 31.8 mm of the Caliber MT5602, Tudor’s first in-house movement, which was developed for the Heritage Black Bay and the

TUDOR DIVE WATCHES

Their history began in 1954 with the Ref. 7922 and continued with functional watches known to be legible, ergonomic, accurate and durable. The Heritage Black Bay Bronze clearly demonstrates these characteristics with its historical link.

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The advertisement features three overlapping images of the WatchTime magazine cover. The largest image is the print edition, showing a detailed IWC Ingenieur Amg watch. The other two images are digital versions displayed on a tablet and a smartphone. Three gold circular callouts provide pricing information: 'ALL ACCESS DIGITAL ONLY \$39.97 A YEAR!' for the digital-only package, and 'ALL ACCESS WITH PRINT MAGAZINE ONLY \$49.97 A YEAR!' for the combined print and digital package. The magazine cover itself lists several articles: '10 TIPS FOR BUYING A CHRONOGRAPH', 'TESTS & REVIEWS' featuring Blancpain Fifty Fathoms, Ball Watch Engineer Hydrocarbon Nedu, Bulgari Diagono Ceramic, and Fortis Chrono Alarm GMT, 'Our Guide to Quality Marks', and 'IWC TEST INGENIEUR AMG CERAMIC'.

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Tudor Heritage Black Bay Bronze

Heritage Black Bay Dark models) and 6.5 mm high, so it's no small thing and hints at the stability of the structures beneath. This is essential due to the forces exerted from the barrel to make a power reserve of 70 hours possible.

THE BALANCE IS supported securely beneath a bridge. It vibrates at a rate of 4 Hz with a variable moment of inertia and a silicon hairspring. A balance screw is provided for fine regulation and at a level that earns it a chronometer rating – the MT5601 was awarded a COSC-certified chronometer certificate. The Heritage Black Bay Bronze showed balanced rate results on our timing machine – in the various positions as well as over the

diminishing power reserve. On the wrist, the results were even better: a gain of not quite 2 seconds per day.

For daily wear, the Heritage Black Bay Bronze can be fastened to the wrist with a distressed leather strap. Its rough style and angular pronged bronze buckle provide a rustic look and a secure and comfortable fit. The watch also comes with an additional green-and-beige fabric strap that is a clever nod to the sailors of the French Navy who – when they received supplies of strapless Tudor watches in the 1970s – crafted unique, mostly handmade straps to attach the case to the wrist. One of these vintage straps was an elastic band from a parachute that had a distinctive yellow stripe running down its center. This was the descendent of our test watch's textile strap.

Although the textile strap on our test watch wasn't elastic, we thought perhaps it should have been to allow for variable adjustment while diving. The strap extension within the pronged buckle (also made of bronze) is difficult to use. Otherwise, there is hardly anything to complain about on this dive watch, except maybe the lack of a date display. ○

This dive watch is water resistant to 200 meters and is easy to read under all light conditions.



SPECS

TUDOR HERITAGE BLACK BAY BRONZE

Manufacturer: Montres Tudor SA, Rue François-Dussaud 3-7, 1211, Geneva 26, Switzerland

Reference number: 79250BM

Functions: Hours, minutes, small seconds, unidirectional divers' bezel

Movement: In-house Caliber MT5601, automatic, COSC-certified, 28,800 vph, 70-hour power reserve, balance wheel with variable moment of inertia, silicon balance spring, screw-type fine regulation, Incabloc shock absorption, 25 jewels, diameter = 33.8 mm, height = 6.5 mm

Case: Bronze, brushed finish, anodized aluminum bezel inlay, curved sapphire crystal, stainless-steel caseback 316L with bronze-tone PVD coating, water resistant to 200 m

Strap and clasp: Distressed leather and additional fabric strap, bronze pronged buckle on both straps

Rate results:

Deviations in seconds per 24 hours (Fully wound / after 24 hours)

Dial up	+3.0 / +4.4
Dial down	+3.1 / +3.6
Crown up	+4.4 / +4.3
Crown down	+3.6 / +3.9
Crown left	+1.6 / +0.2
Greatest deviation of rate	2.8 / 4.2
Average deviation	+3.1 / +3.3
Average amplitude:	
Flat positions	291° / 284°
Hanging positions	262° / 242°

Dimensions: Diameter = 43.02 mm, height = 14.61 mm, weight = 116 g with leather strap, 114 g with fabric strap

Variations: Heritage Black Bay 41 mm in stainless steel on stainless-steel bracelet (\$3,675) or on leather strap (\$3,350), both with an additional fabric strap; Heritage Black Bay Dark in stainless steel with PVD coating on stainless-steel bracelet (\$4,475) or on leather strap (\$4,150), both with an additional fabric strap

Price: \$3,975

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COMPACT CHRONOGRAPH

A bi-compax chronograph has only two subdials and can measure only relatively short intervals. But this type of display gives the watch a cleaner look. We compare models from Alpina, Bell & Ross and Union Glashütte.



BY MARTINA RICHTER
PHOTOS BY OK-PHOTOGRAPHY



Whether it's the popularity of the retro trend or an interest in sleeker, simpler timepieces, increasing numbers of chronographs with only two subdials are appearing on the market. The usefulness of a mechanical chronograph per se is often overestimated or even ridiculed, but the fact remains that a dial with only two counters has a tidier look than one with three, while enabling the wearer to use the chronograph indicators to tally the duration of short intervals.

We said "short" intervals, and we mean it. Nothing but brief time periods can be measured. Why? Alongside the small seconds, the only other subdial is the chronograph's counter, which maxes out at 30 elapsed minutes. This is true of the watches in our review, which are made by Alpina, Bell & Ross and Union Glashütte. As elsewhere in life, exceptions confirm the rule: Omega, for example, offers chronographs with two counters, one of which counts both elapsed minutes and elapsed hours. But that's another story.

The term "bi-compax" is frequently used to denote a chronograph with only two counters. There really isn't a long history behind the word, although some aficionados would like to interpret it as having an illustrious past. "Bi-compax" is a fairly modern neologism that describes chronographs with one subdial for the small seconds and another for up to 30 elapsed minutes. The terms "uni-compax" and "compur" were formerly used to denote chronographs of this kind.

When considering the origins of "compax" nomenclature (see sidebar), which describes the number of complications in a chronograph, one realizes that the Alpiner 4 chronograph most nearly exemplifies this variety because it offers no other additional functions on the movement side. (If there is an extra function, it isn't equipped with a display.) However, this model has a 24-hour ring along the flange and a 360° scale around the bezel, which can be rotated in two directions.

Along with a small seconds and an elapsed-minutes counter, the BR03-94 Black Matte Ceramic from Bell & Ross and the Noramis from Union Glashütte also have a date display and a tachymeter scale along the edge of the dial, but they are not as easy to read as the 24-hour ring on the flange of the Alpina. The flange on the Bell & Ross slopes very steeply upward. The scale on the Union Glashütte curves slightly downward. This contributes to the retro look of the Union Glashütte's white lac-

quered dial with its classical numerals, triangular hour indexes, and three blued hands. This dial is very legible in the daytime. The small luminous dots above the applied hour indexes are unobtrusive: they don't interfere with the classical style when the dial is viewed in daylight, and they glow green in the dark, as do the luminous dauphine hour hand and minutes hand.

The dial of the Bell & Ross has an entirely different look. This watch boasts its characteristic angular case that underscores its more modern style. Yet despite the square case, the watch recalls the nostalgia of yesteryear's airborne instruments, which live again in Bell & Ross's watches. White elements against a matte black dial create optimum contrast and assure the best possible legibility for the time display. At night, the hour and minutes hands, as well as all the hour markings, glow a handsome blue. All other indicators disappear in the dark, as is the situation on the dial of the Union Glashütte watch. The date is shown using white numerals on a black disk at 4 o'clock: this indicator is readily legible, as is the larger date display above the 6 on Union Glashütte's watch.

The contrast on the face of the Alpina isn't quite so bold. The dial appliqué and the faceted hands reflect a bit of daylight. Nearly all of them glow bright green at night, with the sole exception of the elapsed-seconds hand. It has a red triangle on its short end, and the same red color highlights the hand above the subdial for 30 elapsed minutes to signal that these two hands are responsible for tallying elapsing intervals. The Alpiner 4 model that's available in the U.S. has a black dial and a stainless-steel bracelet.

THE ALPINA'S rotatable compass bezel has little to do with chronographic capability. Together with the 24-hour scale on

*THE ALPINE 4 SHOWED GOOD RATE
BEHAVIOR AND HAS IMPROVED
PROTECTION AGAINST MAGNETIC
FIELDS, EXCELLENT SHOCK RESISTANCE,
AND A COMPASS BEZEL.*



This Alpiner 4 model, with a black dial and a stainless-steel bracelet, is the version that's available in the U.S.



The Alpiner 4 has excellent shock resistance and enhanced protection against magnetism.

SPECS

ALPINA ALPINDER 4 CHRONOGRAPH

Manufacturer: Alpina Watch International SA, Chemin de la Galaise 8, Plan-les-Ouates, 1228 Geneva, Switzerland

Reference number: AL-860S5AQ6

Functions: Hours, minutes, small seconds, chronograph (central elapsed seconds, 30-minute counter), 24-hour ring, 360° rotatable bezel, increased protection against magnetic fields (soft iron inner case)

Movement: AL-860 based on Sellita SW 500, automatic, 28,800 vph, 46-hour power reserve, gold-plated brass balance, Nivarox balance spring, fine adjustment via bipartite index with eccentric screw (Etachron), Incabloc shock absorption, 30 jewels, diameter = 30.0 mm, height = 7.9 mm

Case: Stainless steel, curved sapphire crystal, water resistant to 100 m

Strap and clasp: Alligator leather with stainless-steel pin buckle

Rate results:

Deviations in seconds per 24 hours
(Fully wound / after 24 hours)

Dial up	+4.0 / +0.1
Dial down	+1.8 / +4.3
Crown up	-1.5 / 0.0
Crown down	+3.8 / +0.5
Crown left	-1.7 / -1.3
Greatest deviation of rate	5.7 / 5.6
Average deviation	+1.3 / +1.4

Average amplitude:

Flat positions	324° / 299°
Hanging positions	297° / 269°

Dimensions: Diameter = 44.07 mm, height = 15.85 mm, weight = 132 g

Variations: With black dial and stainless-steel bracelet (\$3,650)

Price: 2,695 euros (outside the U.S.)



While the Alpiner 4 has no date display, it offers a rarely found compass function via the 24-hour flange and 360° rotatable bezel.



The Bell & Ross has bold styling that alludes to aircraft instruments and is easy to read both day and night.



The bezel and back of Bell & Ross's square case are screwed to one another via four long tubes.

SPECS

**BELL & ROSS BR03-94 BLACK
MATTE CERAMIC**

Manufacturer: Bell & Ross, Rue Copernic 8, FR-75116 Paris, France

Reference number: BR0394-BL-CE

Functions: Hours, minutes, small seconds, chronograph (central elapsed seconds, 30-minute counter), tachymeter scale, date

Movement: BR-Cal.301 based on ETA 2494-2, automatic, 28,800 vph, 47-hour power reserve, gold-plated brass balance, Nivarox balance spring, fine adjustment via bipartite index with eccentric screw (Etachron), Incabloc shock absorption, 37 jewels, diameter = 28.0 mm, height = 6.1 mm

Case: Black matte ceramic, sapphire crystal with nonreflective coating, water resistant to 100 m

Strap and clasp: Rubber, coated clasp, stainless-steel pin buckle

Rate results:

Deviations in seconds per 24 hours (Fully wound / after 24 hours)	
Dial up	+11.3 / +7.6
Dial down	+12.1 / +10.6
Crown up	+7.6 / +6.4
Crown down	+5.6 / +5.3
Crown left	+10.2 / +10.9
Greatest deviation of rate	6.5 / 5.6
Average deviation	+9.4 / +8.2
Average amplitude:	
Flat positions	320° / 290°
Hanging positions	290° / 264°

Dimensions: Diameter = 42.01 mm x 41.99 mm, height = 12.95 mm, weight = 158 g

Variations: With synthetic weave strap (\$5,900)

Price: \$5,900

the dial, it lets the user determine the cardinal directions – a feature that’s very rarely found on watches today. This function has its roots in the early days of aviation. A pilot wearing a watch with a compass bezel can set whatever course he’s been told to follow by the tower. This can be very helpful, for example, during a landing approach. Of course, there’s also a compass display in the cockpit.

In all other respects, the Alpinier 4 chronograph keeps its feet planted firmly on terra firma. Newly launched in 2014, it traces its ancestry to the Alpina 4, which debuted in 1938. The “4” in the model’s name refers to four essential attributes: stainless steel, water resistance, shock resistance, and protection against magnetic fields. The Alpinier 4 chronograph relies on a soft-iron inner case to boost its ability to withstand magnetism. The shock absorption conforms to the requirements set by ISO 1413. And the stainless-steel case resists pressure to 100 meters. A massive screwed back and a screwed crown contribute to the robustness of this watch, which is easy to use thanks to its large dimensions. The chronograph’s push-pieces reliably operate the stopwatch functions of Caliber AL-860, which is based on a Sellita movement.

Bell & Ross’ modular chronograph offers equally good user-friendliness. The elongated push-pieces aren’t only reliable, they

THE BR03-94 OFFERS USER-FRIENDLINESS AND OPTIMUM LEGIBILITY DAY AND NIGHT, BUT THE CERAMIC CASE IMPACTS THE PRICE.

also accentuate the boldly distinctive design of the ceramic case, which incidentally, is not a monocoque construction as it had been in the past, but now relies on tripartite architecture. The middle piece is immobilized between the bezel and the case-back, which are joined to one another by four long tubes. This construction keeps the case watertight to a depth of 100 meters. The comparatively small crown between the chronograph’s push-pieces is surprisingly easy to operate.

The Union Glashütte’s crown isn’t quite as user friendly. It’s larger than the Bell & Ross’s crown, but it doesn’t provide as good a grip. And the rapid-reset function for the date display is

(Continued on page 70)

Compax: Handsomely Complex

Today, a “bi-compax” or “tri-compax” chronograph means a wristwatch with a built-in stopwatch and a specific arrangement and number of subdials on the dial. However, these two technical terms caused some confusion in the past. In the 1930s, Universal and Zenith began the story of nomenclature for chronographs with the “Compax.” Although the term referred to the number of complications in the movement rather than to the number of subdials on the dial, misunderstandings were likely because complications were frequently displayed on auxiliary dials integrated into the main face. On the other hand, one subdial was already occupied with the small seconds. Subsequently, a so-called “uni-compax” watch had only one complication (the chronograph’s elapsed minutes) but two subdials. The famous Universal Genève Tri-Compax has three complications (chronograph, date, and moon-phase display), but four counters on its dial, because the fourth subdial

hosts the small seconds. Further confusion was caused by brands such as Universal Genève, Zenith and Girard-Perregaux, which sold watches under the name “Compax” that had only three counters on their dials. These subdials are arranged in precisely the same way that we expect to see today from a tri-compax watch: three counters, i.e., one each at 3, 6 and 9. This V-shaped arrangement has an attractive and well-balanced appearance, which explains why many chronograph manufacturers use it nowadays under the name “tri-compax.” The term “bi-compax” functions similarly and refers to an arrangement of two subdials, one at 3 and the other at 9. It has nothing to do with the historical approach regarding the complications, and it wasn’t used in this context in the past. “Bi-compax” can also refer to an arrangement with one subdial at 6 and the other at 12, so the term is only partially comparable with the historical usage of the term “uni-compax.”



On this Omega bi-compax chronograph, the elapsed hours and elapsed minutes share the same counter.



Three counters appear in a V-shaped arrangement on the new Rolex Daytona, which has the tri-compax arrangement usually seen on watches today.

Not everyone will love the retro styling of Union Glashütte's white lacquered dial, but no one can deny that it is classically clear and always legible.



SPECS

UNION GLASHÜTTE NORAMIS CHRONOGRAPH

Manufacturer: Union Uhrenfabrik GmbH, Frühlingsweg 5, 01768 Glashütte, Germany

Reference number: D008.427.16.017.00

Functions: Hours, minutes, small seconds, chronograph (central elapsed seconds, 30-minute counter), tachymeter scale, date

Movement: UNG-27.02 based on ETA 7753, automatic, 28,800 vph, 60-hour power reserve, gold-plated brass balance, Nivarox balance spring, fine adjustment via bipartite index, Nivachoc shock absorption, 27 jewels, diameter = 30.0 mm, height = 7.9 mm

Case: 316L stainless steel, curved sapphire crystal with nonreflective coating on both sides, sapphire window in caseback, water resistant to 100 m

Strap and clasp: Leather embossed with crocodile pattern, stainless-steel folding clasp pressure activated at both sides

Rate results:

Deviations in seconds per 24 hours
(Fully wound / after 24 hours)

Dial up	+2.9 / +1.6
Dial down	+4.7 / +4.1
Crown up	+4.4 / +4.7
Crown down	+3.1 / +2.5
Crown left	+3.8 / +4.1
Greatest deviation of rate	1.8 / 3.1
Average deviation	+3.8 / +3.4
Average amplitude:	
Flat positions	306° / 302°
Hanging positions	282° / 266°

Dimensions: Diameter = 41.49 mm, height = 15.3 mm, weight = 120 g

Variations: With black dial and Milanese bracelet (2,790 euros)

Price: 2,550 euros

The Union Glashütte's handsomely decorated movement can be admired by peering through the sapphire window in the back, which is held in place by six screws.



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Omega Speedmaster "Dark Side of the Moon"

Since its 1957 debut, Omega's Speedmaster "Moonwatch" had sported a tricompass dial arrangement. In 2011, Omega outfitted the watch with a new co-axial movement and bicompass design, both of which are used again in the first Moonwatch with a black ceramic case.

[Click here to read more](#)



Panerai Luminor 1950 Regatta 3 Days Chrono

Panerai has been involved in yacht racing since 2005; it was probably inevitable that the brand would eventually release a watch for yachtsmen. That timepiece, which contains a brand-new movement and carries the reference number PAM00526, makes its debut this year.

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Ulysse Nardin Marine Chrono Manufacture

Ulysse Nardin's journey toward more in-house movement production continued apace at this year's Baselworld, when the brand released its new Marine Chronograph Manufacture.



Patek Philippe Unveils New Calatravas

At this year's Baselworld, Patek Philippe introduced the new Ref. 5227, a new version of its classic Patek Philippe Calatrava watch in a slightly larger case and a new, hinged dustcover over the exhibition caseback.



10 Celebrity-Branded Sports Watches

Many celebrities serve as "brand ambassadors," but only a few become involved in the process of creating their own personalized timepieces. Here are 10 famous-name watches from seven brands.

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Despite its modular construction, Bell & Ross's watch is the slimmest of the three; Alpina's watch includes an inner case, but is only marginally taller than the Union Glashütte timepiece.



(Continued from page 67)

somewhat inconvenient: the mechanism is controlled via an inset button at the 10 on the side of the case, but the button cannot be operated without using a stylus or the tip of another pointed object. On the other hand, this is the only one of our candidates with a transparent back: six screws fasten the back, which is equipped with a sapphire window through which you can admire the handsomely finished movement. Based on a movement from ETA, Union Glashütte's Caliber UNG-27.02 runs quite well: it gained between 3 and 4 seconds per day and showed slight differences among the several positions, but it had a high beat error, which means you have to shake this watch to revive it after it has stopped running. Bell & Ross's movement also performed with a stable rate, but it gained between 8 and 10 seconds per day. The Alpina delivered the best rate performance, gaining only 2 seconds per day.

THE VARIETY of calibers is noteworthy, each of which is offered here in a watch that's priced to appeal to aficionados on a budget. The calibers range from the modified ETA 7753, through the modular Dubois Dépraz construction, to the comparatively recent Sellita movement. The elaborate ceramic case makes Bell & Ross's chronograph significantly more costly. And the shape of this case polarizes opinions, so this model appeals to a special audience.

Alpina's and Union Glashütte's watches cost less, but they also offer less: the Alpiner 4 has no date display; the Union Glashütte Noramis has a date, but the display is cumbersome to reset. And while the Noramis has a sapphire caseback and a folding clasp on its strap, the Alpiner 4 offers good technical equipment. If sportiness is your priority, you'll probably opt for the Alpiner 4 chronograph. But if you want retro classicism, you'll more likely choose the Noramis. ○

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Retro Racer

In 1976, TAG Heuer introduced its Monza model, named for the world-famous Italian Formula 1 racetrack. Forty years later, the Monza Calibre 17 recalls the glory days of racing while offering a great deal more than retro design.

BY ALEXANDER KRUPP

PHOTOS BY OK-PHOTOGRAPHY



G

ood news for fans of the retro look – the Monza is back. Good news for racing fans, too, with a design that’s just as dynamic and full of automotive references as the original version from 1976. It’s also remarkable, since TAG Heuer has experimented over the last 15 years with a more elegant version with no black coating and colorless dial elements (see Timeline sidebar).

A glance at the new Monza Calibre 17 might call to mind the familiar roar of Formula 1 engines. After all, the watch was first introduced to celebrate Ferrari’s World Championship title in 1975. On Sept. 7 of that year, Niki Lauda won third place in the Italian Grand Prix at the Monza racetrack and secured the title in a Ferrari sporting the Heuer logo. Scuderia Ferrari also won the Constructors’ Prize – a long-sought double victory after an 11-year dry stretch.

THE NEW MONZA combines the best features of two historical models – its dial design can be traced back to the original Monza from the year 1976 and its case to a Heuer chronograph from 1933. The cushion-shaped case is a style holdover from the earliest days of the watch. The Monza from the 1970s had an oval case shape that was typical for that time and was available in chrome-plated or black-coated brass. That watch contained Calibre 15, which necessarily placed the crown on the left-hand side. Calibre 15 was the successor model of the Calibre 11 developed in 1969 by Heuer-Leonidas in collaboration with Breitling, Hamilton-Büren and Dubois Dépraz – one of the world’s first automatic chronographs.

Calibre 15 had a small seconds subdial set at 10 o’clock that gave the original Monza a strikingly asymmetrical look. TAG Heuer omitted this daring design element for its newest version, due in part

SPECS

TAG HEUER MONZA CALIBRE 17

Manufacturer: TAG Heuer SA, Rue L.-J. Chevrolet 6a, 2300 La Chaux-de-Fonds, Switzerland

Reference number: CR2080.FC6375

Functions: Hours, minutes, small seconds, chronograph with 30-minute counter, date

Movement: ETA 2894 “Elaboré,” automatic, 28,800 vph, 37 jewels, hack mechanism, quick date adjustment, fine regulator, Incabloc shock absorber, power reserve = 42 hours, diameter = 28 mm, height = 6.1 mm

Case: Titanium-carbide-coated titanium, curved sapphire crystal on both sides, titanium-carbide-coated titanium screwed caseback with four screws, water resistant to 100 m

Strap and clasp: Calfskin strap with PVD-coated titanium safety folding clasp

Rate results:

Deviations in seconds per 24 hours
(With chronograph switched off / on)

Dial up	+2 / -1
Dial down	+11 / +7
Crown up	+1 / 0
Crown down	+6 / +4
Crown left	+6 / +6
Crown right	+1 / -1

Greatest deviation of rate 10 / 8

Average deviation +4.5 / +2.5

Average amplitude:

Flat positions 310° / 291°

Hanging positions 282° / 259°

Dimensions: Diameter = 42 mm, height = 13.5 mm, weight = 96 g

Price: \$5,200

TAG Heuer

This Swiss brand was founded in 1860 and is famous for its sports watches, most of which have a stopwatch function. The most important and comprehensive model line is the Carrera. Fans also prize the Monaco, Aquaracer and Formula 1. With about 1,500 employees worldwide, TAG Heuer produces 720,000 watches annually.



Behind the titanium-carbide-coated screwed caseback is TAG Heuer's Calibre 17 – a modular chronograph movement based on the ETA 2894.

SCORES

TAG HEUER MONZA CALIBRE 17

Strap and clasp (max. 10 points): The supple calfskin strap is easy to adjust thanks to the safety folding clasp with its clasp mechanism. **9**

Operation (5): Only weakness: stiff operation of the pushers **4**

Case (10): Excellent execution of the titanium case. Scratch resistant thanks to PVD coating; water resistant to 100 m **9**

Design (15): TAG Heuer has improved upon the original watch design from the 1970s. One weakness has remained, however: no color distinction in the hands for the timekeeping and chronograph functions. **14**

Legibility (5): The basic orientation on the dial is good both day and night, but the abundant line markings on the minutes track are distracting. **4**

Wearing comfort (10): The lightweight case, supple strap and functional clasp sit snugly and comfortably on the wrist. **10**

Movement (20): Highly developed mass-produced chronograph movement in basic quality "Elaboré" with attractive decorative finishes **12**

Rate results (10): One outlier in the "dial down" position makes the maximum positional deviation rather high. **6**

Overall value (15): Its value is adequate, but not as good as other chronographs with in-house movements. **12**

TOTAL: 80 POINTS

to its use of the ETA 2894, known at TAG Heuer as Calibre 17. This standard movement reverses the position of the small seconds and minutes counter and relocates the crown to the right side of the case.

All in all, these changes benefit the new Monza, giving it a sporty and relaxed look that is not quite so idiosyncratic as the original. Whatever it may lose in coolness, it gains with the polished and matte finishes of the cushion-shaped case. Titanium contributes to its excellent wearing comfort and the titanium carbide coating makes it highly resistant to scratches.

JUST AS BEFORE, the Monza has a sealed caseback – even though the technology beneath is in no way so unattractive that it must be hidden. TAG Heuer uses the basic movement quality "Elaboré" and adds various decorative

finishes and an individualized rotor. Black enhanced engraving instead of gold on the oscillator fits the overall sporty design of the watch.

The ETA 2894 is a modular chronograph based on the three-hand caliber ETA 2892, so the crown sits lower on the case than the chronograph pushers. Although the pushers are generously sized, their pressure point is not perfect. The start-stop pusher on our test watch had a notably delayed reaction when timing events. The stop and reset worked better but the pusher function was stiff. This is due at least in part to the cam control of the chronograph that replaces the historical, higher quality column-wheel control in more economical chronograph movements.

The rate results of the test watch are generally acceptable. However, the timing machine recorded an outlier in the "dial

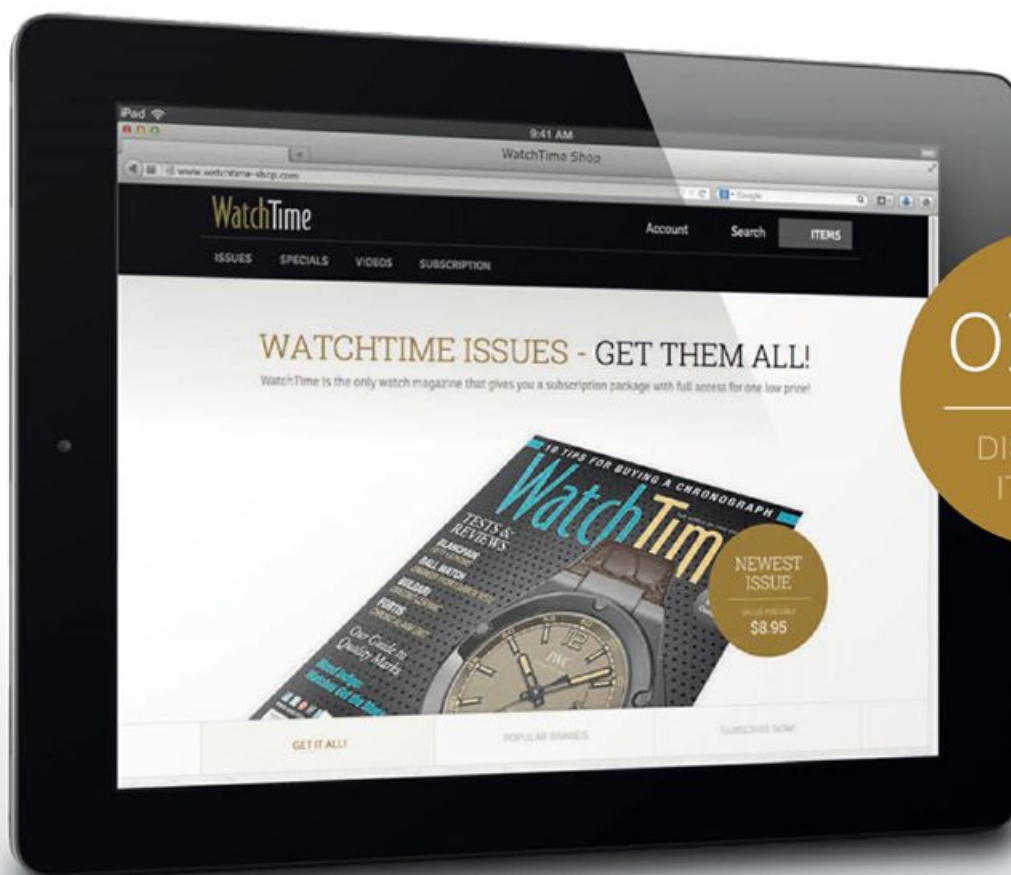
Timeline

A cushion-shaped chronograph from 1933 (left) and the original Monza from 1976 (center) inspired the current retro-look Monza. In 2001, a generation of Monza models was launched (right) that emphasized elegance over sportiness and had little in common with the sports watch from the 1970s.



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The PVD-coated folding clasp comes in the shape of TAG Heuer's shield logo.

down” position, which negatively affected the average outcome on our stringent rate test. On the positive side was the low daily gain of 2.5 seconds per day without the chronograph on and 4.5 seconds per day while running. The wearing test on the wrist showed deviations ranging between 0 and +6 seconds per day.

THE PERFORATED calfskin strap is also perfectly in line with the automotive appeal of the Monza design, as are the sporty case and dashboard-like displays. The strap ends in a functional, well-exe-

cuted folding clasp with push buttons that are also made of PVD-coated titanium. Its clamp-type clasp mechanism allows for precise adjustment. It compresses the strap at the point of closure, though not to the extent seen on similar clasps.

All in all, the TAG Heuer Monza Calibre 17 is more stylish than the original model from the 1970s (combination cushion-shaped case), of higher quality (titanium with PVD coating) and therefore, more attractive (perfectly in line with current retro trends). What was good in 1976 – it’s even better today. ○



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MASTER OF ITS CLASS

The new Seamaster Planet Ocean Chronograph continues Omega's maritime legacy. It's also the brand's first chronograph to earn certification as a Master Chronometer. We present it here in our exclusive review.

BY MARTINA RICHTER

PHOTOS BY OK-PHOTOGRAPHY AND OMEGA





Omega Seamaster Planet Ocean 600M Co-Axial Master Chronometer Chronograph



n 2015, the Swiss Institute of Metrology (METAS) certified the Omega Globemaster as the first “Master Chronometer.” Since then, Omega’s goal has been to submit the majority of its mechanical movements for METAS certification by 2020. This is an ambitious project: each movement must pass the eight tests of the METAS ordeal, which defines a new standard for precision, accuracy of rate, and resistance to magnetic fields. Omega unveiled six new Master Chronometer movements at Baselworld in 2016. Among them was the first Master Chronometer chronograph Caliber 9900, which ticks inside the Seamaster Planet Ocean that we scrutinized in this review.

Unlike our test of the Globemaster (see “Mega Stress Test” in the December 2016 issue of WatchTime), this time we decided not to put the watch through its paces inside a magnetic resonance scanner. Instead, we simply assumed that Caliber 9900, like the Globemaster’s Caliber

8900 before it, could resist a magnetic field with an intensity of 1.5 teslas. The 8900 we tested remained unaffected by nearly 7.0 teslas of magnetism. Like the 8900, chronograph Caliber 9900 has a coaxial escapement, a titanium balance and a silicon balance spring. However, Caliber 9900 is paced at 4 Hz, which makes it a “fast oscillator.”

The new caliber’s rate behavior proved to be very similar to that of the 8900. The timing machine showed an average daily gain of slightly less than 5 seconds. The caliber reliably continued to keep time with this slight gain under all conditions, i.e., when fully wound and after having been allowed to run for 24 hours without intervening winding and with the chronograph switched on. The Seamaster Planet Ocean performed even more accurately on the wrist, where it gained only slightly less than 3 seconds per day. Noteworthy are the slight differences between the individual positions and the stability of the amplitudes,

SPECS

OMEGA SEAMASTER PLANET OCEAN 600M CO-AXIAL MASTER CHRONOMETER CHRONOGRAPH

Manufacturer: Omega SA, Jakob-Stämpfli-Strasse 96, 2502, Bienne, Switzerland

Reference number:

0251.33.46.51.03.001

Functions: Hours, minutes, small seconds, date, time-zone function with rapid-reset for the date display, chronograph (central elapsed-seconds hand, one counter for up to 60 elapsed minutes and 12 elapsed hours), rotatable divers’ bezel, helium-release valve

Movement: In-house co-axial Caliber 9900 based on Omega 9300, automatic, COSC-certified, certified by METAS to be antimagnetic to at least 15,000 gauss, 28,800 vph, 60-hour power reserve, titanium balance, silicon (Si14) balance spring, fine adjustment via eccentric screws on the balance, Nivachoc shock absorption, 54 jewels, diameter = 32.5 mm, height = 7.6 mm

Case: Stainless steel, curved sapphire crystal with nonreflective coating on both sides, sapphire window in caseback, water resistant to 600 m

Strap and clasp: Leather with rubber on the inside, one-sided folding clasp

Rate results:

Deviations in seconds per 24 hours
(Fully wound / after 24 hours)

Dial up	+3.9 / +4.7
Dial down	+5.9 / +5.1
Crown up	+4.0 / +4.5
Crown down	+4.4 / +4.3
Crown left	+5.5 / +5.3
Greatest deviation of rate	2.0 / 1.0
Average deviation	+4.7 / +4.8

Average amplitude:

Flat positions	272° / 245°
Hanging positions	258° / 229°

Dimensions: Diameter = 45.57 mm, height = 18.93 mm, weight = 176 g

Variations: With stainless-steel bracelet (\$9,000); in Sedna (rose) gold with leather strap (\$28,200)

Price: \$8,350



The Master-Co-Axial Caliber 9900 is paced at 4 Hz and stores energy in two barrels for a 60-hour power reserve.

whether or not the chronograph is running. This means you can leave the chronograph running for a long period of time without concern. And when you do, you'll also benefit from another feature of Caliber 9900: the elapsed minutes and hours are shown like a second time of day on the counter at 3 o'clock. A quick glance at this ordinary clock face is all it takes to intuitively read the subdial and know how long the chronograph has been running. And with a bit of foresight, you can use this display for a second time zone, for example, to keep showing the time in your home time zone on this subdial while you travel to the other side of the globe.

THE TIME-ZONE function makes it easy to set the local time at your destination. After you have pulled the crown out to the middle position, you can reposition the hour hand in hourly increments either forward or backward without influencing the positions of the other indicators, i.e., the minutes hand, the seconds hand and the chronograph's elapsed-time display. The date at 6 o'clock also remains unaffected, although it switches in synchrony with the hour hand. And it does so when you leave and when you return home, switching both clockwise and counterclockwise. The time-zone function simultaneously serves as a rapid-reset mechanism for the date.


*THIS DIVERS' CHRONOGRAPH HAS
PRESSURE RESISTANCE TO 600 METERS,
OPTIMUM LEGIBILITY, A HELIUM-
RELEASE VALVE, AND A "MASTER
CHRONOMETER" CERTIFICATE.*

Caliber 9900 relies on two serially switched barrels to amass a 60-hour power reserve. When you look through the sapphire crystal in the back of the case, you can not only see the barrels but also identify them, thanks to engravings on the bridge that's screwed in place above the barrels. A similar engraving identifies the six-pillar column wheel, which you can see through an opening in its bridge.

The screwed caseback, which Omega describes as "alveol," is part of the redesign of the Planet Ocean, which was first launched in 2005. The brand's reference to a lung's tiny air sacs could perhaps allude to the distinctive knurling along the rim of the back of the bezel, which is engraved with the name of the model and its water resistance. Or perhaps Omega is using "alveol" to refer to the tiny bubbles of gas that could penetrate into the case through the unscrewed helium valve under conditions that prevail in a pressurized chamber.

Be that as it may, the helium-release valve and the high resistance to pressure (up to 600 meters) are not the only features that enable the Planet Ocean to continue its legacy as a professional divers' watch. The watch is also extremely legible in this new, handsome, blue version, which honors its maritime heritage. The distinctive faceted hands contrast well with the high-gloss-polished blue ceramic background. The hands and the applied hour markings dominate the dial. In the dark, the minutes hand and the orientation dot at the 12 (which are both critically important when diving), glow green, while the hour indexes and all other hands shine blue. This means that the chronograph can also be used in the dark and under water.

For ease of operation during underwater stop-time missions, the two pushpieces are not screwed, unlike the crown, which is self-arresting and positioned inside a crown tube to guarantee extreme water resistance. The crown's large size and deep grooves, combined with a convenient notch in the middle part of the case, ensure that the user can easily grasp the crown to unscrew it and pull it out into its several positions. The chrono-



Wearing comfort is assured by the fluid transition between the case and the rubber-lined leather strap, which is secured by a folding clasp.

graph's pushers, the helium-release valve and the rotatable divers' bezel also operate securely.

THE DIAL and the rotating bezel are made of blue ceramic. The calibrations on the bezel are highlighted with a liquid metal alloy that is significantly harder than stainless steel yet is able to fuse seamlessly with the ceramic. Indeed, when you run your fingertips along the bezel, you cannot feel any difference between the applied markings and their ceramic substrate. Everything looks and feels totally unified and smooth. Furthermore, the combined materials resist scratches and corrosion. The zirconium oxide that is used here (and is also used in dental and automotive applications), offers a high degree of thermal insulation while preventing microscopic tears from lengthening or widening.

Despite its large size, the Seamaster Planet Ocean fits surprisingly well on the wrist. The water-resistant leather strap is lined with rubber and assures a good fit. The strap not only transitions seamlessly into the lugs on the middle part of the case, it also slopes downward for a snug fit. The other end of the strap is secured by a pressure-activated clasp, which folds on one side. The free end of the strap runs through lateral guides and is affixed by a tongue in the buckle. The sole drawback: one searches in vain for a divers' extension. This means that the Seamaster Planet Ocean might not fit over the sleeve of a neoprene diving suit. The watch also refuses to be crowded under the cuff of a dress shirt, although it has everything it needs to be an elegant companion in daily life on dry land. ○



Bold hands and indexes, plus good illumination, guarantee that the Seamaster Planet Ocean is always legible.



Many details – push-pieces, crown, rotatable bezel and luminous hands – contribute to the Seamaster Chronograph's high functionality.



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JAEGER-LECOULTRE

J.D.
JAQUET DROZ

R
JEAN ROUSSEAU
PARIS

MB&F
HODGKINSON LAB

MORITZ GROSSMANN
GLASHÜTTE USA

NOMOS
GLASHÜTTE

OMEGA

PERRELET
1877

Romain Gauthier
THE DISCOVERY OF TIME

RGM
WATCH COMPANY

SPEAKE-MARIN
A PROJECT FOR VINTAGE

Tutima
GLASHÜTTE/SA

URBAN JØRGENSEN
1978

VACHERON CONSTANTIN
GENÈVE, DEPUIS 1755

Seiko's Grand Tour

A visit to Seiko's watch studios in Shizukuishi and Shiojiri, the two watch-producing facilities within the Seiko Group responsible for the manufacturing of Grand Seikos

BY ROGER RUEGGER





Shinshu

Watch Studio
(Seiko Epson Corporation)

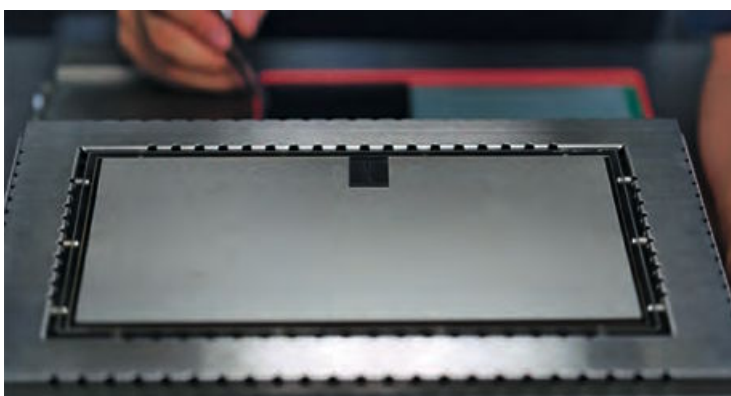
S

ince the year 2010, Seiko has finally been selling Grand Seiko outside of Japan. Nevertheless, a trip to Japan – especially to the two locations where the premium collection is currently being produced – offers a unique way to not only learn more about Grand Seiko, but also to get a comprehensive overview of all the steps involved in producing a mechanical watch in just one single location – or two in this case.

Similar to the larger Swiss watch groups, Seiko holds subsidiaries, which produce and market several brands with

very different price points. But unlike the watch brands owned by Richemont or the Swatch Group, for example, most of the watches produced by Seiko also carry the Seiko logo, which sometimes leads to confusion for a beginner as to the differences between, let's say, a Seiko 5 and a Seiko Credor (which can mean a difference of up to half a million dollars). And by far, not all of the thousands of Seiko employees are directly involved with the production of wristwatches: electronic devices, systems solutions and clocks, printers, circuits and even lenses represent a much larger part of the publicly held company's portfolio. According to one of the executives in Tokyo, only about 10 percent of Seiko's output is watch related.

While Grand Seiko is undoubtedly one of Seiko's premium watch brands, it is not the company's most expensive offering: Seiko's first tourbillon, *sonnerie* and minute repeater were all recently launched under the Credor brand, currently only available in Japan. Grand Seikos usually retail between \$2,000 (SBGX009) and \$55,000 (SBGD001), the mechanical men's watches in stainless steel retail between \$3,600 (SBGR051) and \$7,000 (SBGJ013), since the brand has been introduced to the U.S. in 2010.



Cases are polished by the Zaratsu method to create mirror-finish surfaces.

Hands and hour markers have razor edges to deliver the best visibility.

Hand setting, assembly and control of Spring Drive calibers at Seiko Epson

Tempering of hands



Seiko's 2016-introduced Spring Drive 8 Day Power Reserve, currently the most expensive Grand Seiko available

Like most of the Swiss groups, Seiko does not disclose the number of watches produced, but at the Shizukuishi Watch Studio in Morioka alone (one of two production facilities for Grand Seiko we were able to visit), more than 50 of the 800 employees are tasked with the production and assembly of movement parts and watches for the Grand Seiko range. In other words: we are talking about a substantial number of watches, and it looks like the success story has just begun.

In more recent years, Grand Seiko sales saw a two-digit annual growth, according to Seiko's President and CEO Shinji Hattori – not only because the company has been increasingly promoting its flagship brand Grand Seiko and continues to expand its retail network

worldwide, but also because Grand Seiko watches have acquired a cult following outside of Japan. The reason is simple: a rich history, traditional design and craftsmanship, exclusive movements, and a vertical manufacturing system where all designs, pretty much all of the components, and all of the assembly are made in house, which is exactly what makes any watch aficionado tick. And it doesn't end there: Seiko not only produces most of the parts, but occasionally also some of

**SEIKO HAS MADE
MECHANICAL
WRISTWATCHES
SINCE 1913;
GRAND SEIKO
WAS LAUNCHED
IN 1960.**



Shizu•kuishi

Watch Studio
(Morioka Seiko
Instruments, Inc)

the machines required to produce them. And if you happen to attend a meeting at Seiko, most likely even the projectors used for the presentations carry the company's name. It doesn't get more in-house than that.

Shizukuishi Watch Studio is responsible for assembly of the mechanical Grand Seikos (as well as some of the Prospex models), and the second facility, the Shiojiri Watch Studio, for the production of quartz and Spring Drive models of Grand Seiko among others. Both operate in dust-free rooms and can only be accessed through airlocks. But when entering the building from outside, visitors are immediately asked to change their shoes in order to help reduce dust.

Grand Seiko was born with a simple idea, to create the "ideal watch." The

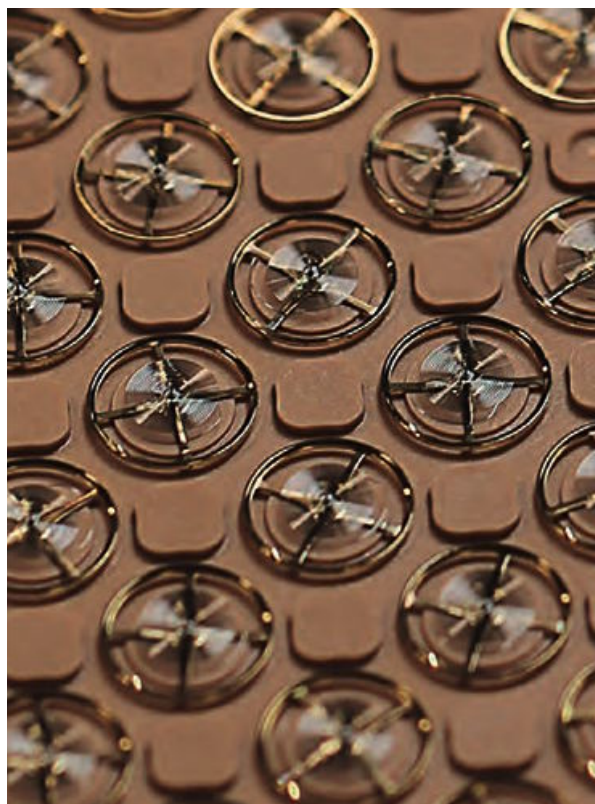
brand debuted in Tokyo at the end of 1960 and was produced until 1975. In 1991, Seiko resumed the production of mechanical watches, and in 1998, launched the Grand Seiko with a new mechanical caliber, the 9S series with automatic and hand-wound calibers.

The mechanical Grand Seikos all come with highly polished bezels and cases (known as Zaratsu or blade polishing, which is made by carefully applying a rotating tin plate against the case), flat dials and multifaceted hands; the Grand Seiko logo is below the regular Seiko logo.

Today, the Grand Seiko collection includes mechanical and quartz as well as Spring Drive models. Most of the calibers are designed and developed exclusively for Grand Seiko (the 8L35 movement, for example, used in the Prospex Marine-master collection, is based on the 9S55),

A master watchmaker at his desk in the Shizukuishi Watch Studio at Morioka Seiko Instruments

Mainspring, balance and even balance springs are made in-house – the development of Seiko's currently used proprietary Spron alloy took 10 years.



*THE LION HAS BEEN THE SYMBOL
OF GRAND SEIKO SINCE 1960.*



Grand Seiko Standard Inspection Certificate

“Seiko” means “precision” in Japanese, and since the company was founded in 1882, living up to its name has been one of its main objectives. The Grand Seiko Standard inspection is used to test the mechanical Grand Seiko movements before they are cased. The procedure is similar to the more widely known quality standard upheld by the Contrôle Officiel Suisse des Chronomètres (COSC) but aims to meet a stricter standard of accuracy: Seiko tests its movements in six positions, instead of the five positions used by COSC, and at three temperatures. In order to accommodate the additional position, Seiko inspects its watches in-house for 17 days compared to the 15 days required by the three independent laboratories of COSC.



Internal Grand Seiko Standard Inspection of (uncased) movements in six positions

Assembly of mechanical Grand Seiko watches in a dust-free environment at Shizukuishi Watch Studio

Water-resistance testing for both Prospex and Grand Seiko



The Spring Drive 8 Days (SBGD001) is the first Grand Seiko watch to have been created by Seiko's Micro Artist Studio in Shiojiri. The platinum watch features an eight-day power reserve, the movement's bridge shows the outline of Mt. Fuji, and the polished rubies and tempered blue screws stand for the lights of the city of Suwa below the Studio's home.

including the 9S85 ‘Hi-Beat 36000,’ the 9F quartz caliber with a yearly accuracy of +/-10 seconds, and the 9R Spring Drive chronograph with vertical clutch and column wheel.

While the collection is available worldwide now, there are still a number of Grand Seiko watches that are only available in Japan. Especially at the store at Shizukuishi Watch Studio in Morioka, visitors can find versions not sold anywhere else. Add Seiko's Museum in Tokyo and the Wako store in Ginza, and collectors have a couple of reasons to think about a trip to Japan. ○



Shinji Hattori has been the Chairman of the Board and Group Chief Executive Officer of Seiko Holdings Corporation since October 2012 and serves as Chief Executive Officer and President of Seiko Watch Corporation. He has been the President of Seiko Holdings Corporation since April 2010.

Shinji Hattori is also the great-grandson of Seiko's founder Kintaro Hattori.

'One Step At a Time'

Four questions to Shinji Hattori, President and Chief Executive Officer of Seiko Watch Corporation, about the future of Credor, Grand Seiko, the newly launched Presage collection – and what his favorite watch is

2016 marked the introduction of Seiko's first-ever watch with a tourbillon, the Credor Fugaku Tourbillon. [Fugaku is a Japanese word used to describe Mount Fuji.] In the years before, Seiko had already introduced a Minute Repeater and a Sonnerie in the Credor range. What are the plans for Seiko's haute horlogerie segment, and will we see more Credor watches outside of Japan?

Our priority in the luxury market is Grand Seiko. We want to expand in this area and the boutiques will play an important role. It is where we can get more people to understand our rich heritage, our technologies and the fact that Seiko is the only *manufacture* with every watchmaking expertise.

INTERVIEW BY ROGER RUEGGER

There are 77 Seiko boutiques around the world and the sales at the boutiques are growing steadily. We aim to have 100 boutiques by 2018. The New York boutique is particularly successful with Grand Seiko and other prestige pieces including Credor.

Regarding Credor, we have not launched it on a wide scale to the world for the moment, but we will continue to show it at Baselworld and in our grow-

ing number of boutiques. In the future, we will market Credor internationally, but at the moment we must proceed one step at the time.

The Credor tourbillon we launched at Baselworld attracted a great deal of attention and admiration.

We were very encouraged by this reception as it again demonstrated that Seiko's high watchmaking skills are appreciated in America and Europe as well as in Asia.

When will we see a Seiko Boutique in Switzerland?

I think that the Swiss know more about quality watchmaking than anyone and I believe that many Swiss collectors express interest in our best watches.



The Grand Seiko Hi-Beat 36000 GMT with green dial (SBGJ05) won the “Petite Aiguille” award in the Grand Prix d’Horlogerie de Genève in 2014, making it the first Japanese watch that won an award in this category. The latest version comes with a deep red dial and an oscillating weight with oxidation treatment (SBGJ021).

At the moment we have several good retailers for Seiko and one very fine retailer in Bern for Grand Seiko. We are watching carefully how the brand is developing through these stores. One day we may open a boutique in Switzerland, but right now, with great respect to the Swiss watch market, it is not our top priority.

Last year, Seiko launched the all-mechanical Presage collection in Basel [with more affordable prices ranging from the equivalent of \$500 to \$2,600]. Especially the first two watches that were also available in the U.S., the limited Presage Automatic Watch 60th Anniversary Edition chronographs, one with a white enamel dial, the other with a black dial made of Urushi lacquer, indicated a new level of commitment to fine mechanical watchmaking at Seiko. What can we expect next from this collection?

Presage was our most important launch last year. We introduced 20 models for 2016, but it was just the beginning. We will show a wide new collection at Basel-world 2017. As with Credor, we see that

*‘WE AIM TO
HAVE 100
BOUTIQUES
BY 2018.’*

the world is enthusiastic for Japanese craftsmanship and I promise your readers will see much more of this high quality Japanese watchmaking in Presage in the future, too. You will have a lot to look forward to.

If a watch collector could only have one watch from the current [mechanical] Seiko collection, which one would you recommend?

It would be the Grand Seiko Hi-Beat 36000 GMT. I am very proud of this watch because it demonstrates the very best of our traditional watchmaking skills.

In 1956, Seiko introduced the first Japanese-made, self-winding mechanical wristwatch. At the end of 2016, the brand paid homage to that historic timepiece with a limited edition from its new, all-mechanical Presage collection, the Seiko Automatic 60th Anniversary Limited Edition (Ref. SARW027). It is also the third model within the Presage range that is available in the U.S.



Seiko’s first-ever tourbillon watch, the Credor Fugaku Tourbillon, was introduced in 2016. It features an ultra-thin manual-wound caliber with 153 components and is limited to eight pieces, sold only in Seiko boutiques. Seiko claims it is also the world’s smallest tourbillon “by volume.” The 43-mm case is made of platinum and the bezel is set with 48 blue sapphires.

We made our first wristwatch in 1913, and from the early 1960s, we have been making every component, including the mainsprings and hairsprings using our unique SPRON alloys [a metal developed for mechanical watch springs, short for Spring Micron]. Because we make every component and because we also have high technology like MEMS [Micro Electro Mechanical System], we are able to create this high-beat watch. You might know that this watch received a prize at Geneva [the Grand Prix d’Horlogerie de Genève] in 2014. I am very proud of this achievement and grateful to the judges for their confidence in Seiko. ○

WATER SPORTS LOVER



TUTIMA

The UFAG (Uhrenfabrik AG Glashütte), which was founded at Glashütte in Saxony in 1926, reserved the name "Tutima" for its best products. After World War II, when Glashütte's watch-making industry had been destroyed, the firm's founder Ernst Kurtz relocated the business: first to Memmelsdorf and then to Ganderkesee, where his co-worker Dieter Delecate subsequently took over the company. Delecate returned Tutima to Glashütte in 2011 – 85 years after it was founded.

Tutima sails the world's oceans with the watertight M2 Seven Seas. But is this sports watch also suitable for landlubbers and stay-at-homes?

BY ALEXANDER KRUPP
PHOTO BY NIK SCHÖLZEL

Anyone who wants to wear a sporty, sturdy, watertight watch like the new Tutima M2 Seven Seas doesn't have to justify his decision by explaining that he sails regularly or frequently takes diving vacations. Sporty timepieces are purchased by all watch lovers, those who enjoy wearing them at their desks or at business meetings as well as those who take them on camping trips or trekking expeditions. Everybody loves sports, regardless of whether they participate themselves or prefer to watch the pros do it. And a sporty watch is an expression of this attitude.

That's why the M2 Seven Seas is a functional instrument for extreme situations and, at the same time, a successful accessory for everyday use. Extreme situations? Really? Yes, because Tutima combines a 3-mm-thick pane of sapphire and a titanium case with a sandblasted surface that's comparatively resistant to scratches. And if it does get badly scratched, then this Glashütte-based brand can easily remedy the problem by sandblasting it again.

People who love water sports can take this timepiece along when they dive, kite surf, ride the waves or – as this model's name and the engraving on the back of its case suggest – sail the world's oceans. And while they're experiencing these adventures, the ETA 2836 movement with its elaborately crafted Tutima rotor will stay nice and dry. The strap won't suffer any damage either, because it's made of waterproof Kevlar.

All of these advantages, plus high contrast on the dial in the daytime and good nighttime legibility, add up to an attractive overall package, which is even more appealing thanks to its affordable price of \$1,900.

SPECS

TUTIMA M2 SEVEN SEAS

Manufacturer:	Tutima Glashütte, Altenberger Strasse 6, 01768 Glashütte/Sa., Germany
Reference number:	6151-01
Functions:	Hours, minutes, seconds, date, day of the week
Movement:	ETA Caliber 2836 "Elaboré," automatic, 28,800 vph, 26 jewels, stop-seconds function, rapid-reset mechanism for the date and day-of-the-week displays, Incabloc shock absorption, fine adjustment via index, 38-hour power reserve, diameter = 25.6 mm, height = 5 mm
Case:	Titanium with flat sapphire crystal with nonreflective treatment on both sides, unidirectional rotatable bezel, screwed crown, fully threaded screw-in back made of titanium, water resistant to 500 m
Strap and clasp:	Kevlar with titanium safety folding clasp
Rate results:	
Deviations in seconds per 24 hours	
Dial up	+3
Dial down	+3
Crown up	+5
Crown down	+1
Crown left	+2
Crown right	+4
Greatest deviation of rate	4
Average deviation	+3
Average amplitude:	
Flat positions	269°
Hanging positions	273°
Dimensions:	Diameter = 44.4 mm, height = 13 mm, weight = 96 g
Variations:	With blue dial (\$1,900); with black or blue dial and titanium bracelet (\$2,300)
Price:	\$1,900

There are, however, a few flies in the ointment. The unidirectional rotatable bezel is difficult to grasp securely, despite the fact that it's equipped with grooves and notches. The small crown is inconvenient to unscrew and screw shut again. And purists may be peeved by the minutes hand, which is too short and doesn't match this watch's image as a precision instrument.

On the other hand, the rate test showed praiseworthy accuracy. Our tested timepiece gained only 3 seconds per day on the timing machine and on the wrist. The individual values in the electronic measurement test diverged by no more than 4 seconds, which is also an expression of conscientious fine adjustment in the factory.

Tutima gives divers, sailors, desk jockeys and armchair quarterbacks an accurately running, sturdy, self-consistently designed and affordably priced sports watch with the desirable Glashütte/Sa. quality seal. But Tutima doesn't give them absolute perfection. If that existed at all, this watch would cost considerably more. ○

SCORES

TUTIMA M2 SEVEN SEAS

Strap and clasp (max. 10 points):	9
Operation (5):	3
Case (10):	8
Design (15):	13
Legibility (5):	4
Wearing comfort (10):	9
Movement (20):	11
Rate results (10):	9
Overall value (15):	13
TOTAL:	79 POINTS

FLIGHT



FIGHT



*IWC and Breitling duel for
horological supremacy in the air.*

BY JENS KOCH

In contrast to dive watches, pilots' watches do not have to meet any objective criteria. Good legibility under all light conditions is generally all that's needed, and good design makes the watches what they are. A pilots' watch looks like a pilots' watch. But it's precisely the design that shows the different approaches to pilots' watches by IWC and Breitling. Both brands base their own unique designs on their long traditions and histories. In the case of IWC, the company relies heavily on its Big Pilot's Watch from 1940, which it, and other companies like A. Lange & Söhne, supplied to the German Air Force.

Typical features included the military-style triangle with two dots at 12 o'clock, sans serif numerals (a plain, unadorned bar for the numeral 1), and dagger-shaped hands. Today these same features are found on every pilots' watch made by IWC. Even the Mark XVIII follows this same family design – although its predecessor had different numerals and hands (the pilots' watch Mark 11, built for the Royal Air Force in 1949). The only exceptions are the models dedicated to Antoine de Saint-Exupéry and his "Little Prince," in which IWC uses serif numerals, elegant blue or brown dials, silver hands and polished bezels. A conical crown, which makes operation while wearing gloves easier, is found on many other IWC models.

But IWC really unleashes its functions. The collection ranges from a simple hand-wound watch to chronographs with and without split seconds, world-time watches, and perpetual calendars. And with its limited Big Pilot's Heritage Watch 55, IWC even restores the design of the original – with beige luminous material and a matte case – though it has a small seconds display (the original model had a central seconds hand).

IWC can also reveal its modern side. The brand's Top Gun models have a matte-black ceramic case and a textile strap for a contemporary military look, while still maintaining other traditional features. For this reason, these watches are easily recognizable as IWCs. The Top Gun Miramar line presents another interesting variation of the design: a muted green dial, beige luminous material, a red hour track, a polished ceramic case and an olive-green textile strap come together to create an exciting mix of modern and retro elements.

ICONS

IWC has offered its Big Pilot's Watch with its accurate pocket-watch movement since 1940. Breitling introduced its first Navitimer with chronograph and slide-rule bezel in 1952. Both were originally designed for use in aviation.



BREITLING CAN ALSO look back on a long tradition of pilots' watches. Today, its iconic Navitimer looks much as it did just a few years after its introduction in 1952, when it was given a light-colored dial. These chronographs, with their distinctive rotating slide-rule bezels, are available with numerals as well as markers. Both types are immediately recognizable as Navitimers. Traditionally, one can choose between a black leather strap with a lighter stitched seam and a seven-row metal bracelet with offset links.

Breitling offers its icon in 43-mm and 46-mm sizes. There are also models that offer various additional functions along with a chronograph: a second time zone, world-time indication, full calendar and perpetual calendar. A wide selection of limited editions varies the design – from the re-release of the first models issued in 1952 for the pilots' organization AOPA and elegant brown or blue dials to the modern look of Blacksteel (matte-black coated case with black hands and markers on a black rubber strap).

Breitling is also one of the manufacturers that react most strongly to prevailing trends; it introduces new models to the market almost on an annual basis. This is clearly the case with its pilots' watches, especially in the Chronomat and Avenger lines. Both always have a rotating bezel with raised markers.



FOTOLIA.COM/RSCOLL

TODAY'S CLASSICS

Breitling has been building the Navitimer (steel, \$8,215) with visual features that have remained virtually unchanged since 1962. An automatic in-house caliber ticks inside.

IWC has only cautiously changed its Big Pilot's Watch (steel, \$12,900) over the last several years. The newest version of IWC's 7-day automatic movement has powered the watch for the past year.





The Chronomat – with its distinctively detailed numerals on the dial, round crown, and polished markers, which originally formed a square on the dial – alters its pilots'-watch look with sporty-elegant and modern options. In addition, other bezel numerals and markers are offered in this collection. Black-coated models with black or anthracite-colored markers and hands lend the watches a touch of modern sportiness. The Airborne models represent a timeless military style with more practical-looking numerals and markers and textile straps.

But Breitling's Avenger line goes still further in this direction. Its stencil-like numerals recall the distinctive look of military equipment. And the crown and pushers are designed with function in mind. In contrast to the Chronomat collection, which features chronographs exclusively, the Avenger line also includes three-hand watches. The look can also be varied with different straps: a polished metal bracelet for classic sportiness, leather for a more retro look, a rubber strap for functionality or a textile strap for military appeal.

BREITLING IS KNOWN as a pilots'-watch brand to an even greater extent than IWC. At Breitling, this means maintaining traditions as well as satisfying the customer by offering contemporary designs. Watches are also produced to meet the demands of

HOMAGE TO THE BEGINNINGS

With special editions in 2016, both brands recall the first iconic pilots' watch models. IWC is offering a 100-piece special edition of its Big Pilot's Heritage Watch 55 (titanium, \$14,800) in its original 55-mm diameter. The Breitling Navitimer AOPA with logo is limited to 500 pieces (\$7,655).

MILITARY FLYERS

With black cases and textile straps, both brands offer a military-style look: IWC Big Pilot's Watch Perpetual Calendar Top Gun (ceramic, \$36,000) and Breitling Avenger Hurricane (Breitling, \$8,390).



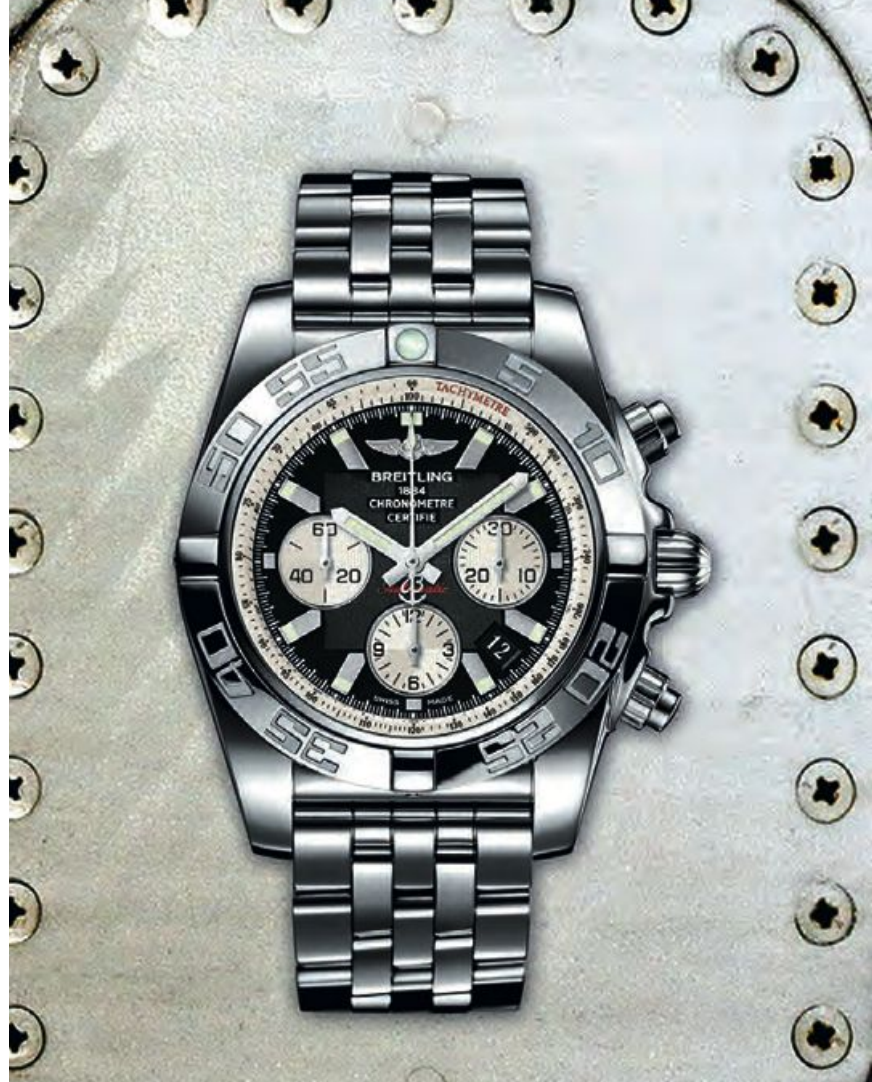
today's pilots. For this reason, Breitling sometimes dispenses with the mechanical movements that have come to be expected in a luxury watch. This results in extremely precise multifunction watches that have countdown, alarm, and additional time-zone functions.

Watches in the brand's Professional line typically have a functional case and large numerals at 3, 6 and 9 o'clock. Some have rotating bezels for quick calculation of flight routes. The hands are partially skeletonized to permit view of the LCD indications at the top and bottom of the dial. Breitling's Emergency model attained fame with its integrated distress beacon. The chunky case houses a screw connector for the antenna, which wearers view as a positive feature of the watch, not a hindrance.

The newest addition to the Professional collection is the Exospace B55 for wireless connection to a smartphone. The user can set the time using the phone, as well as reading start and landing times on the phone's large screen. With its black case and gray or blue hands with matching rubber strap, it has a modern, high-tech look.

ELEGANT FLYERS

Polished surfaces, applied markers and decorative finishes on the dial add elegance: Big Pilot's Watch Annual Calendar Edition "Le Petit Prince" (rose gold, \$32,400) and Breitling Chronomat 44 (steel, \$9,060).



IWC AND BREITLING interpret the pilots' watch in different ways. IWC uses an iconic model from its past and rolls out a homogeneous collection of pilots' watches with unmistakable features. Different colors and materials transform the lines and push them in different directions for an elegant or military look.

Breitling chooses another path. This brand continues to offer and produce its pilots' watch icon, the Navitimer. Variations are offered with special editions in which the company creates a feeling of greater elegance or modernity through its use of different colors and materials. Breitling has also created collections that are inspired by contemporary or military designs. Bracelets and straps also provide numerous possibilities to modify the design.

Both brands rely on distinctive features so it's always immediately possible to recognize the model as an IWC or a Breitling. But where IWC tinkers with its design and continues to develop its look or make steps toward its origins, Breitling invents itself anew while still leaving its icon intact. ○



RETRO FLYERS

Vintage luminous, functional design, unadorned textile straps and earthy colors come together for a retro military look: IWC Pilot's Watch Chronograph Top Gun Miramar (\$10,900) and Breitling Chronomat 44 Airborne (\$8,030).



FUNCTIONAL FLYER

The Breitling Exospace B55 (titanium, \$7,180), with smartphone connectivity for flight times, has a modern, technical appeal with digital displays, a black case, functional design, and a dark gray rubber strap.



Luxury With Utility

Patek Philippe offers many complicated timepieces that have plenty of everyday utility. We present a few of them here.

BY ALEXANDER KRUPP



SECOND TIME ZONE CALATRAVA PILOT TRAVEL TIME REFERENCE 5524G



Whether for a winter vacation in Canada or a business trip to Japan, a well-thought-out time-zone function is very useful in our mobile era, when people cross time zones almost as often as their grandparents crossed the street. The time-zone indicator is even more useful when it's complemented by additional displays, such as a day-night indicator or a date display. This is offered by the Calatrava Pilot Travel Time, which debuted in 2015. From a functional point of view, this watch adds another practical feature: not only is there an alternately blue and white day-night indicator for home time, there's also an identical day-night display for local time, i.e., wherever in the world the wearer happens to be at the moment. The date is shown by a hand on a large subdial, which gives the face an attractive, symmetrical look. Finely decorated self-winding *manufacture* Caliber 324 S C FUS and a handsome 42-mm gold case lend a luxurious aura to this sportily designed pilots' watch. \$47,630

WORLD-TIME DISPLAY

WORLD-TIME WATCH REFERENCE 5230G

If you want to keep an eye on the time in several surfing regions or at various business locations, you need a watch that can simultaneously show the time in more than one time zone. Most such timepieces show the hour in the Earth's 24 standard (full-hour) time zones. A good example is Patek Philippe's world-time watch, which debuted in 1937 and has been released over the decades in numerous stylistic variations. The newest model comes with a 38.5-mm white- or rose-gold case. Individually shaped and boldly angular hands rotate above the dial, which is elaborately guilloché-embellished and anthracite colored near the center. This latest incarnation preserves the simplicity of time setting: the traveler brings the desired time zone to the top of the dial by pressing the push-piece at the 10. Meanwhile, the 24-hour ring and the openwork hour hand jump along to stay in synchrony so all of the times are correct after the user has set the watch for a new time zone. The central hour and minutes hands can be repositioned by pulling the crown outward and turning it: this causes only the 24-hour ring to turn along with the hands because the desired reference location should logically remain unchanged. As an aid to orientation, the nighttime hours from 6 pm to 6 am are printed against a black background on the hour ring. The functions are controlled by automatic Caliber 240 HU, for which the suffix "HU" stands for *heure universelle*, i.e., universal time. \$47,630





ANNUAL CALENDAR REFERENCE 5396G

Patek Philippe celebrated the 20th anniversary of its invention by debuting two variations of annual calendar Reference 5396 in 2016. This complication is only 20 years old because it was developed several decades after the premiere of its big brother: the perpetual calendar. The mechanism takes into account the various lengths of 11 months throughout the year, but requires manual correction on the last evening of February. Patek Philippe provides the usual indicators for the date, the day of the week and the month, along with a moon-phase display and a 24-hour indicator that share a subdial at 6. This 38.5-mm watch is available in white gold with a gray dial or in rose gold with a silvery white face. Each variation encases self-winding *manufacture* Caliber 324 S QA LU 24H/303. \$47,970

CHRONOGRAPH REFERENCE 5170R

If, rather than tallying the duration of your own marathon runs, you prefer to time a journey by rail or by car, then the inclusion of a chronograph function in an elegant watch like this one is the right combination for you. With the debut in 2009 of hand-wound Caliber CH 29-535 PS, Patek Philippe launched its first *manufacture*, serially produced chronograph movement without other additional functions. This caliber premiered in a ladies' watch, followed one year later by its debut in yellow-gold Reference 5170J for men. The latter was subsequently augmented by white-gold versions. Rose-gold variations with black or classical silver-colored dials followed in 2016. Each model has a sleekly styled 39.4-mm-diameter case and a face with subdials positioned just south of the dial's equator. Alongside these "simple" chronographs, Patek Philippe also offers chronograph watches with a split-seconds function, annual calendar, perpetual calendar, second time zone, and world-time indicator. \$81,080





GENTLEMAN'S SPORT

A week with the Jaquet Droz SW Chrono with Blue Côtes de Genève Dial

BY MARK BERNARDO

When one thinks of luxury sports watches, Jaquet Droz is probably not a brand that springs immediately to the minds of most watch aficionados. However, the La Chaux-de-Fonds-based, Swatch Group-owned company has been producing its own very distinctive line of sports watches — albeit a bit quietly — since 2008. Dubbed the Jaquet Droz SW (for “Sport Watch”), the collection has grown to include ladies’ models and even a tourbillon, most utilizing the iconic figure-eight dial layout of Jaquet Droz’s flagship collection, the Grande Seconde. Recently, however, the brand broke a bit with that design to produce the first SW chronograph — a watch I was very interested in getting my hands on, especially when I glimpsed the very attractive blue dial/blue strap version.

The Jaquet Droz SW Chrono is unmistakably a watch designed to be both luxurious and sporty. The large and rather thick steel case (45 mm in diameter and just shy of 14 mm in height), with its industrial-looking notched bezel, hollowed-out lugs, grooved chronograph pushers, and ribbon-like crown protector, makes an aggressive, masculine statement, while the azure dial’s *côtes de Genève* pattern, thin white Roman numerals at the hour marks, and elegantly framed double-window big date display at 12 o’clock reassure the prospective buyer that this is a timepiece as suited for evening cocktails as it is for his morning run.

JAQUET DROZ has definitely made an effort to distinguish the SW’s case not only from the classically round ones of its

Jaquet Droz SW Chrono

other, mostly dressier models, but also from those of other sports watches. It doesn't always work, frankly — those curved, claw-like protrusions on either side of the case, one of which is employed to guard the screw-down crown, are cool-looking but somewhat superfluous, especially the one on the non-crown side, which seems to be there simply for visual balance (and, perhaps, weight distribution). It seems that function followed form a bit in this case. In fact, the crown guard can guard the crown a little *too* well, making it a bit difficult for big fingers to rotate it.

THE AFOREMENTIONED lugs, however, do seem to have been designed with a purpose, as they fasten snugly and securely to the alligator leather strap via special screws, keeping this somewhat weighty watch anchored and stable on the wrist while still reducing, if just by a bit, the overall weight with their hollowed-out interiors.



A CLOSE LOOK at the crown and chrono pushers reveals a depth of attention to detail. The pushers are plunger-shaped, as on some of the classical sports watches of yore, with polished heads, black rubber rings, and grooved sides. The crown is adorned with a relief engraving of Jaquet Droz's double-star emblem. At first, one might be confused into thinking that the grooved sides of the pushers mean that they need to be screwed and unscrewed to operate, but this isn't the case.

THE DIAL'S *côtes de Genève* pattern and bright blue color are very pleasing to the eye. Blue-on-blue has become rather ubiquitous in the luxury watch world these days, but that's because it simply works so well so often — with Jaquet Droz in particular offering some stunning examples in recent years. The motif — which is an haute horlogerie technique applied far more often to movement parts than to dials — reminds me a bit of the teakwood deck of an old sailing ship here, possibly due to the somewhat nauti-

Above left: The crown bears Jaquet Droz's double-star emblem.

Left: The hollowed-out lugs are screwed securely to the strap.

Caliber 6885-S has a column-wheel chronograph and a skeletonized, white-gold rotor.



SPECS

JAQUET DROZ SW CHRONO WITH BLUE CÔTES DE GENÈVE DIAL

Manufacturer: Montres Jaquet Droz SA, Allée du Tourbillon 2, 2300 La Chaux-de-Fonds, Switzerland

Reference number: J029530201

Functions: Centered hours, minutes and chronograph seconds; chronograph hours counter; chronograph minutes counter; big date

Movement: Jaquet Droz 6885-S self-winding mechanical movement with ruthenium treatment, column wheel, 18k white-gold oscillating weight, 21,600 vph, 37 jewels, 40-hour power reserve

Case: Stainless-steel case, crown and push buttons with rubber cast; sapphire window in caseback; individual serial number engraved on caseback; water resistant to 50 m

Strap and clasp: Rolled-edge hand-made blue alligator leather with tone-on-tone stitches, stainless-steel folding clasp

Dimensions: Diameter = 45 mm, height = 13.93 mm, weight = 154 g

Variations: With black dial with rubber treatment and matching strap (\$16,800); with anthracite gray *côtes de Genève* dial and matching strap (\$17,300)

Price: \$17,300

cal color scheme. This version of the SW Chrono was not (as far as I'm aware) intended as a yachting watch, but I can definitely see it in that role; it is definitely more in its element at a regatta than at, say, an IndyCar race.

THE TWO SUBDIALS — 30-minute chronograph counter at 3 o'clock and 12-hour counter at 9 o'clock — are sunken into the dial; the *côtes de Genève* pattern continues uninterrupted through them. Each subdial features white Arabic numerals in an elegant, serif font, which line up with tiny indexes on the sloped interiors of the round, rhodiumed frames around them.

The large date numerals, in their polished steel-framed windows, utilize the same white Arabic numeral font; this display is balanced at 6 o'clock by the Jaquet Droz logo in white. It's an attractive and harmonious layout, though one wonders why Jaquet Droz didn't attempt to arrange the chronograph subdials vertically instead, achieving that classical figure-eight look for which its predecessor, the non-chronograph Grande Seconde SW, is known.

THE HANDS ARE rhodium-treated, skeletonized, and outfitted with Super-LumiNova-filled tips. (The judicious use of luminous material is another reminder that this timepiece leans more toward luxury than sports.) However, the hour and minutes hands are oddly similar in size, which is not ideal for legibility: 10:10, for example, looks a lot like 2:50. And one cannot mention the hands without pointing out the one that is, somewhat oddly, absent on this model: namely, any type of hand to indicate the running seconds, which is the most commonly employed method of discerning at a glance if the watch is running.

The caseback, with its screws and countersinks, continues the overall sporty, industrial-chic look, and is equipped with a sapphire window displaying the watch's engine, Jaquet Droz's automatic Caliber 6885-S, a proprietary movement that is undeniably a beauty. The rotor, made of 18k white gold, is skeletonized and brings to mind a car's

steering wheel. Behind it you can see the column wheel that controls the chronograph's operations and the balance spring oscillating at the speedy rate of 21,600 vph. The bridges are graced with *perlage* and the majority of movement parts have been finished with a sleek ruthenium treatment. The Jaquet Droz logo appears subtly but emphatically in bright red on one of the bridges. The watch's series number is engraved on the caseback.

FINALLY, to the actual wearing: this watch, it must be said, has one of the most complex buckle systems I've encountered. It's a steel double-folding push-button clasp, with an extra, hinged attachment, anchored on each side of the push buttons, which detaches on one side and can then be reattached once you've found the right size for your wrist. It's an extra level of security, I suppose, albeit one that isn't necessarily all that easy to figure out if you're wearing the watch for the first time. The rolled-edge, hand-

made blue alligator strap, with tone-on-tone stitching, does provide both an elegant look and a snug, comfortable feel. The Jaquet Droz logo appears once again as an engraving on the buckle, which has a subtle toothed edge echoing the theme of the notched bezel.


THE JAQUET DROZ SW Chrono in blue (Ref. J029530201; there are also versions available with a black rubber-treated dial or an anthracite gray dial, both with matching straps) is a luxury sports watch with an emphasis on luxury. With its many non-functional flourishes (and its somewhat imposing \$17,300 price tag), no one is going to mistake it for a classical "tool watch." But it should appeal to horophiles looking for an elegant conversation-starter timepiece that is still suitably masculine and possessed of horological gravitas. While it cannot yet claim the collectors' cachet of a Royal Oak, a Nautilus, or a Speedmaster, the SW collection continues to forge its own distinctive identity. ○

The complex buckle features a Jaquet Droz logo and a notched motif that echoes that of the bezel.





BUILT FOR
ETERNITY



While Rado's best-known watches are made of ceramic, its earlier models had plenty to offer, too, from hard-metal cases to the first service-interval display on the dial.

BY THOMAS GRONENTHAL

Rado has always been regarded as an avant-garde brand. Its watches rank among the few that are recognized at a glance. A member of the Swatch Group, Rado pioneered using and processing materials not typically seen in watch construction. Its best-known watches are its high-tech ceramic models, which first became available in the 1980s. But even before then, Rado was making watches from other hard substances such as tungsten carbide. This compound was first synthesized in 1914 and borders on a ceramic material but is classified as a hard metal.

Rado began in 1917 as the Schlup & Co. watch factory, although at first, the company didn't produce any watches of its own. Rado Watch Co. Ltd. was founded as a subsidiary 20 years later. Both companies were headquartered in the same building in Lengnau, Switzerland. The first wristwatch to bear the Rado name, the Rado Golden Horse, was marketed in 1957. The watch had a movement from Adolph Schild and a watertight case. It was regarded as robust and reliable. The "golden horse" that gave this watch its name was actually a seahorse, or rather, a pair of seahorses, that appear on the dial as appliques facing each other. Another distinctive feature made its debut in 1958: a miniature rotatable anchor below the 12 o'clock index and above the "Rado" name, where it not only served as the brand's logo, but also was the first service-interval display on a mechanical wristwatch.

When the anchor no longer obeyed gravity but remained stationery, it was time to service the movement. However, this display wasn't particularly accurate, and it is often made even less precise nowadays, when most watch collectors and tinkers mistakenly add a drop of lubricant.

In these early years, large numbers of Rado watches were sold in Asian and Arabian countries. Many of these timepieces are either still in use or available on second-hand watch markets today. Unfortunately, these watches are typically in poor condition due to high ambient humidity and their wearers' perspiring wrists. Rusty components, corroded cases and tarnished dials are the unwelcome consequences. Therefore, attempts are often made to restore these watches. Newly printed and lacquered dials, along with mixed and matched individual components, make these watches eye-catching misleaders with little real value. One of these watches can cost between \$50 and \$100, assuming that its movement still functions. Well-preserved models with all of their original components are hard to find and usually cost between \$200 and \$500.

RADO'S STORY continues with the debut of the DiaStar 1 in 1962. With a tungsten carbide case and a sapphire crystal above its dial, this watch is almost as hard as a diamond. Its rounded case and wide bezel protect it against the environment. Developing it was very challenging

*The HyperChrome
1616 weds '60s
design and modern
technology.*



because the new material required new machines and tools to produce it.

At the same time and thereafter, other Rado models catered to the fashion trends of the 1960s. These include the Rado Manhattan, a rectangular stainless-steel watch with the angular charm of New York's best-known borough. This model is another that can seldom be found in very good condition. Prices usually range between \$150 and \$650. Even rarer is the Rado Cape Horn, which was styled as a "TV screen" watch of the 1960s.

In the 1980s, Rado unveiled a watch that has been nearly synonymous with the brand's name: the Rado Integral. The brand invested many years of work in its planning, design and engineering. The Integral's design unites minimalism and high technology. Its case and bracelet are made from bicolor high-tech ceramic. The material starts as a powder that's pressed into shape at an extremely high temperature. The searing heat melts the powder, which later hardens to produce a homogeneous surface. However, this process also causes the material to shrink, and the shrinkage varies depending on the thickness of the part. This kept Rado's engineers busy before they finally figured out how to fabricate parts that satisfy the extremely narrow acceptable

tolerances required. Sapphire was chosen for the crystal, and a reflective metal coating on the underside hides the glue that affixes the crystal to the ceramic case. Fragments of sapphire can sometimes break away along the edges of the crystal, but Rado can still replace crystals on these models.

With the Integral, Rado found the design that continues to epitomize the brand's watches to this day. Watches that were made during the first years of the Integral's production still look good today: their design has long been acknowledged as timeless. Quartz movements make these watches inexpensive to maintain. And relatively low prices put smiles on aficionados' faces. Second-hand ceramic watches usually start around \$500, depending on the model and size. Price tags up to \$2,100 may dangle from more recent versions.

White ceramic watches, which were first delivered in 1991, commanded higher prices. The round-cased Rado Coupole made "white" the new trend in ceramic watches. Rado's other milestone watches are the Sintra, the Ceramica and the V10K. Their common denominator: all are manufactured using a new, innovative method. For example, the Ceramica debuted in 1998 and features high-tech

1 With a hardness of 10,000 Vickers, the Rado V10K is the world's hardest wristwatch.

2 The Rado Coupole was the first white ceramic watch, coming onto the market in 1991.

3 The era of the ceramic watch began with this timepiece, the Rado Integral, which debuted in 1986.

4 The Golden Horse, Rado's first watch, is hard to find as a second-hand item today.

5 The case of the D-Star is made of titanium carbide and injected ceramic.

6 The Diastar 1, the first scratch-resistant watch, is particularly fascinating thanks to its special case.

7 The Esenza Ceramic has four sensors in the case that eliminate the need for a crown to set the various functions.

8 The HyperChrome Brown Ceramic marked the premiere of high-tech ceramic in a warm, brown color.



plasma ceramic that has a warm metallic shimmer without mixing any metal into the ceramic blend. And the V10K, introduced in 2002, has a unique scratch resistance that comes from coating it with a layer of artificial nano-crystalline diamond, which gives its surface a hardness of 10,000 Vickers and made it the world's hardest wristwatch.

RADO DEBUTED the D-Star in 2011, almost 50 years after the premiere of the DiaStar 1. The new model revived the design of the 1960s, with a wide bezel and an oval case. The case is crafted from Ceramos, a composite material made from titanium carbide and injected ceramic. This next step in the development of ceramic materials made it possible to create new and even more interesting designs. One example: the extremely slim Rado True Thinline, which also debuted on the market in 2011. This ultra-flat quartz watch is less than 5 mm thick and has a monobloc case. In the meantime, cases and bracelets are made from injection-molded material, which simplifies and adds greater precision to the manufacturing process.

The acme of minimalism came in 2013: the Esenza Ceramic Touch is the first ceramic wristwatch with integrated touch technology. Four sensors are

embedded in the monobloc case so the wearer can set the time simply by tapping or swiping with a fingertip. This watch unites Rado's classic design and modern technology.

After black, white and various metallic tones, 2015 saw the debut of a new color in Rado's design spectrum: brown. This unconventional hue added a special note to the HyperChrome Brown Ceramic.

In 2016, Rado returned to the design of the '60s and built a stylish bridge to the Cape Horn collection from that bygone decade with the HyperChrome 1616. ETA's self-winding Caliber C07.062 is ensconced inside a boldly styled angular case that has a diameter of 46 mm. The case is available in black ceramic or metallic-colored titanium. The latter is a specially processed alloy of this lightweight metal, which boasts a surface hardness of 1,000 Vickers. The dial has all of the features that made Rado a pioneer in the '60s: along with a bicolor day/night display, connoisseurs will also rediscover the rotatable anchor that's a sign of the mechanical inner mechanism as well as the brand's logo. The allusion to the brand's grand past and the new watch's instant recognizability prove what collectors have long known: Rado offers classics that are usually ahead of their time. ○

CERAMIC – A HIGH-TECH MATERIAL

Very finely powdered zirconium oxide or titanium carbide is the starting material for high-tech ceramic. Each grain measures only about 1/1,000 mm in diameter, which is about one-fifth the thickness of a human hair. The powder is pressed into appropriately shaped molds and then fired at 1,450 degrees C inside a sinter furnace, where it condenses and later emerges as scratch-resistant ceramic components. The ceramic components for Rado's watches are made by Comadur, a company that belongs to the Swatch Group and is headquartered in Le Locle. Extremely pure coloring oxide is mixed to achieve a broad spectrum of colors. The distinctive shine of the ceramic's surface is made by polishing it with diamond dust.



Ultra-fine powder is the starting material for ceramic cases.



The powder is fired at 1,450 degrees C inside a sinter furnace, where it condenses to form hard, sturdy parts.



At the annual Susquehanna Valley Jaguar Club Holiday Dinner, Michael Holmes Hershey celebrates his 21st birthday wearing a new Tissot PRS516 Blue Dial while his father, Dave Hershey, wears a Seiko Flightmaster Pilot.



Dr. Pablo Martinez wears a Breitling Chronomat 44 while sailing in St. Petersburg, Fla., with his son Harrison.



Brandon Bocchini wears his Doxa SUB 1200T Professional with his son Mathias after swimming with the dolphins in Riviera Maya, Mexico.



Celebrating Gabriel Amar's Bar Mitzvah, Sharon Amar wears a Raymond Weil two-tone with diamonds; Gabriel, a Tissot Le Locle Automatic, a gift from his parents; and Emmanuel Amar, a Carl F. Bucherer Patravi ChronoDate.



Mike Wu wears his Filson Journeyman chronograph while holding his baby daughter Giovanna just before she was sent home from the hospital.



In Atlanta, Ga., celebrating the end of summer 2016, Dr. Arnold J. Weil, left, wears his Rolex Sky-Dweller and Winston Stalvey, his Rolex Yacht-Master II.



Facetime Galleries

To submit a photo, please send your image to photo@watchtime.com with a short description identifying each person in the photo and the watch each one is wearing. Please give the first and last name of the wearer and the brand and model of the watch. If the photo was taken at an event, please specify when and where it was held. Only clear images in which the faces of both watch and wearer are visible will be considered for publication. Images must be in JPEG format, no smaller than 1 MB. Only the best-quality and most interesting photos will be considered.



Brothers Robin Beal Jr., left, and Aaron Beal celebrate Aaron's graduation from nursing school with their TAG Heuer timepieces. Robin wears his Formula 1 Calibre 7 GMT and Aaron, his Formula 1 41 mm.



At the Formula 1 Grand Prix Circuit of the America's track in Austin, Texas, left to right, Kathryn Burell wears a gold ladies' Rolex Datejust with a mother-of-pearl dial with diamonds; son Blake Stubbs, a Hamilton Khaki Aviation Automatic with date; Donald Burell, a Girard-Perregaux 1966 Annual Calendar and Equation of Time; and son Jordan Burell, a TAG Heuer Link Automatic 39 mm.



MAN ON THE MOVE

Jérôme Lambert is moving again. In 2013, after 17 years with Jaeger-LeCoultre in Switzerland's Vallée de Joux, 11 of them as CEO, Lambert and his family moved to Hamburg, Germany, where he took over as CEO of another Richemont Group *maison*, Montblanc. Now comes another move, to Geneva this time, where on April 1 Lambert will become a member of Richemont's top management as "head of operations responsible for central and regional services." He didn't expect a new job to come along so quickly, he said in a one-on-one meeting in his office at the Montblanc booth at the SIHH show in January. But, as Richemont Chairman Johann Rupert said when he announced dramatic changes for the group last November, "things are moving very fast" in the luxury business and Richemont needs to move fast, too.

Rupert wants new, younger managers at Richemont's top, people who can adapt quickly to a rapidly changing luxury landscape. The result is a major management shake-up at the world's second largest luxury products group (after LVMH) and second largest watch company (after Swatch Group). Rupert has eliminated the CEO position. Instead, Lambert, 48, and Georges Kern, 52, will, in effect, split those duties in newly created posts, along with Rupert as executive chairman. Kern will leave IWC Schaffhausen to become Richemont's head of watchmaking, marketing and digital, overseeing the group's Specialized Watchmakers division. Lambert, in addition to heading operations, will oversee the Montblanc, Dunhill, Chloe and Lancel brands. Both men will report directly to Rupert, as will Cyrille Vigneron, CEO of the group's biggest money-maker, Cartier. Both will join the board of directors later this year.

One interesting subplot to the promotion of Lambert and Kern, insiders say, is that it is the latest episode in a long-running rivalry. That Rupert sees the two as CEO timber was evident several years ago when he expanded their portfolios. Kern was given oversight of Baume & Mercier and Roger Dubuis; Lambert got supervision of A. Lange & Söhne. When



Jérôme Lambert becomes the Richemont Group's head of operations on April 1.

Richemont needed someone to turn around Montblanc (an "underperforming *maison*" in the words of outgoing CEO Richard Lepeu), Rupert tapped Lambert.

The new positions play to their strengths, of course. At IWC, Kern proved himself a master at watch marketing, communication and brand building. Lambert is trained in finance: he was JLC's financial controller and chief financial officer before becoming CEO. He is also adept at

managing systems and operations. One of his mandates at Montblanc was to better integrate the German subsidiary's operations with those of the group. He got high marks from the top brass for leveraging the group resources to benefit the brand.

Lambert was mum about anything having to do with his new position. "Because that's corporate," he says. He hints that his days meeting the press will end come April. "At Richemont, brands speak, management whispers," he says with a laugh.

He would probably have preferred to stay mum when I ask about 2017. Are we looking at a third year of declining sales? It's anybody's guess, he says. The global situation is so uncertain that he doesn't want to make a specific forecast. He offers this glimmer of optimism: "There are fewer problems and challenges on the plate this year than last year at this time." Mainland China has improved, Hong Kong is stabilizing, and the Chinese tourist visa problem that hurt European watch sales is resolved. And, he says, we now know that smartwatches are not a dire threat to Swiss watchmaking.

As for some of the top trends at SIHH, like more affordable pricing and more women's watches from men's brands, he is proud that Montblanc began pushing those themes four years ago.

Regarding the value-pricing trend, "Montblanc was the first one to have a motto, a positioning that said 'Let's not forget that \$5,000 is a hell of a lot of money.' You have to offer attractive, cool products," he says, "but value is more than the price." Under Lambert, Montblanc boosted the number of watches selling in the \$1,000 to \$5,000 range.

Women's watches got more attention than usual at SIHH. No surprise there, he says. The women's market is expanding. He is gung-ho on the potential of ladies' watches from "men's" watch brands. "If you have a proper style, it is accepted by women." In China, he says, one of every four Montblanc watches sold is a ladies' Bohème model. "Asia was the new continent for fine watchmaking from 2005 to 2015. What's the next continent for fine watchmaking? It was our claim in 2014 that woman was the next continent!" ○

GET IT ALL

WatchTime is the only watch magazine that gives you a subscription package with full access for one low price!

The advertisement features three overlapping images of the WatchTime magazine cover. The largest image is the print edition, showing a detailed IWC Ingenieur Amg watch. The other two images are digital versions displayed on a tablet and a smartphone. Three gold circular callouts provide pricing information: 'ALL ACCESS DIGITAL ONLY \$39.97 A YEAR!' for the digital-only package, and 'ALL ACCESS WITH PRINT MAGAZINE ONLY \$49.97 A YEAR!' for the combined print and digital package. The magazine cover itself lists several articles: '10 TIPS FOR BUYING A CHRONOGRAPH', 'TESTS & REVIEWS' featuring Blancpain Fifty Fathoms, Ball Watch Engineer Hydrocarbon Nedu, Bulgari Diagono Ceramic, and Fortis Chrono Alarm GMT, 'Our Guide to Quality Marks', and 'IWC TEST INGENIEUR AMG CERAMIC'.

10 TIPS FOR BUYING A CHRONOGRAPH

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